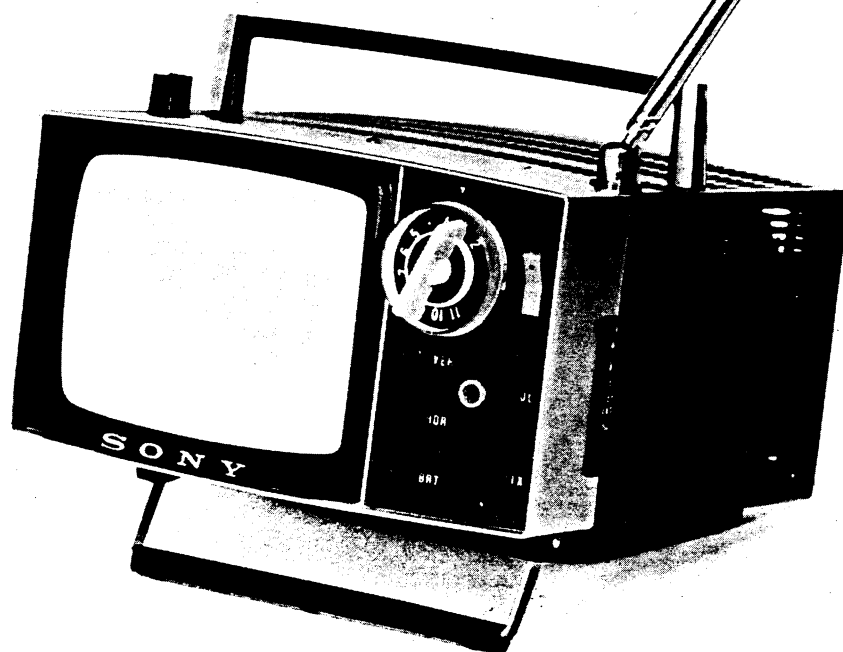


# TV5-303M

3270



## Specifications

Picture Tube :	5", 70° Deflection, Aluminized Screen		
Transistor :	30 (6 Silicon-including 3 Epitaxial, 24 Germanium)		
Diode :	22 (including 4 Selenium Rectifier)		
Channel Coverage :	CCIR Western VHF Channels E-2 to E-11 French VHF Channels 6, 8, 8A, 12 7, 9, 11 (correspond to E-5, E-7, E-9) Belgian VHF Channels E-2 to E-11 (For UHF reception, connect SONY UHF Converter, VUC-5E.)		
IF Circuit :	4 Stages with 5 stagger tuned elements Video Bandwidth; 3 Mc./-3 dB		
Intercarrier System	CCIR		Video IF (AM) 26.75 Mc
	Separate-Carrier System		Sound IF (FM) 21.25 Mc
	French VHF	26.75 Mc	15.6 Mc
	French UHF	26.75 Mc	20.25 Mc
	Belgian (625 lines)	26.75 Mc	21.25 Mc
	Belgian (819 lines)	26.75 Mc	21.25 Mc
Resolution :	Vertical 400 lines, Horizontal 300 lines		
Sound System :	5.5 Mc Intercarrier and Separate Systems (Can be selected by push button provided in the set.) Power Output stage; OTL system, 1.50 mW Speaker; 3" 70Ω Voice Coil		
Automatic Control :	Puls-operated AGC, Diode AFC, Sync. ANS (Automatic Noise Suppressor)		
Power Requirement :	AC 220 V, 50 or 60 c/s, 12 V Battery (3.5 AH)		
Power Consumption :	AC 13 W, DC 9.6 W (0.8 A)		
Dimensions :	4-1/4" (H) x 7-5/8" (W) x 7-7/8" (D)		
Weight :	8.0 lbs.		
Glare Proofing :	Smoked Filter, 70% Transparency		

# SONY®

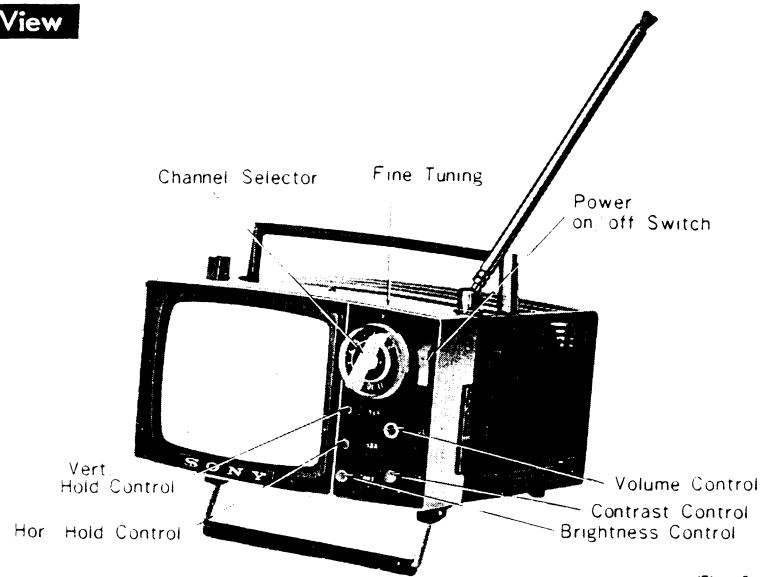
## SERVICING GUIDE

3270

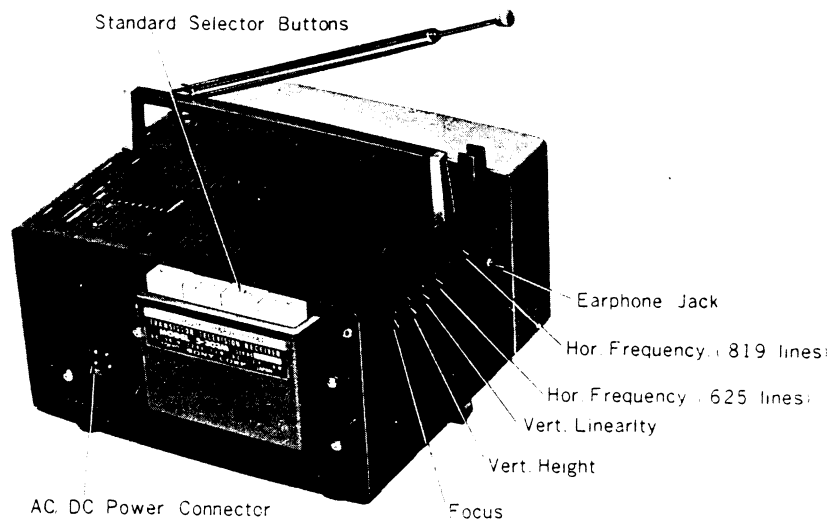
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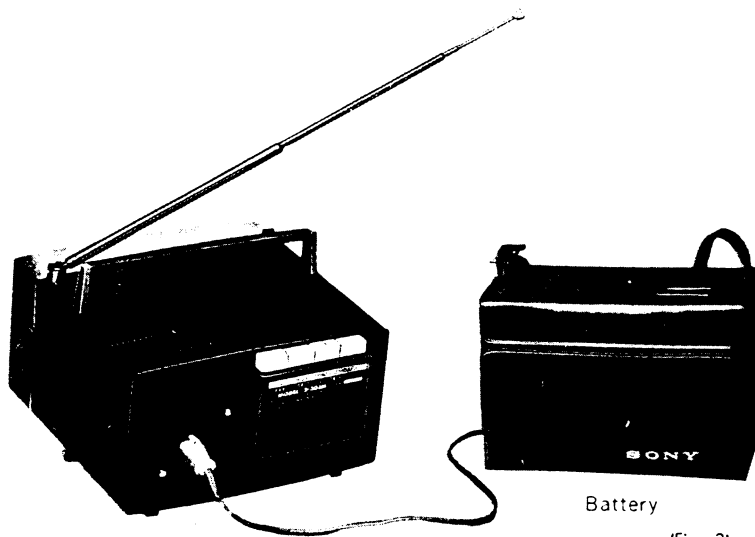
## External View



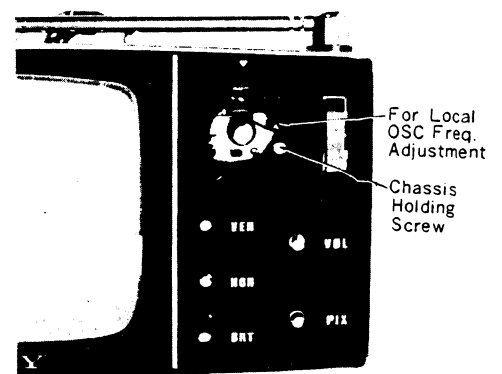
(Fig. 1)



(Fig. 2)



(Fig. 3)



(Fig. 4)

# THE SONY MICRO-TV MODEL 5-303M

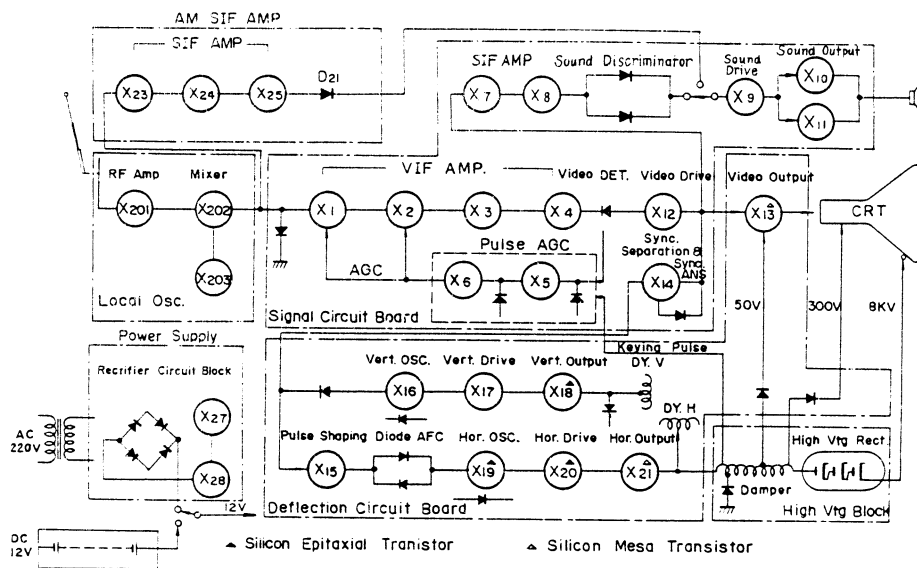
## General

The aim in the designing of the SONY Micro-TV Model 5-303M was the creation of a completely new type of TV set which could be achieved only by the use of transistors.

The concrete requirements given to be met from the start of the design were as follows :

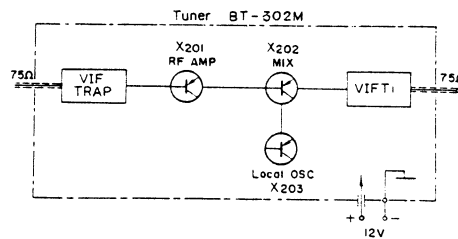
- 1) To be small in size and light in weight.
- 2) To have the lowest power consumption of any mass produced TV set.
- 3) To operate perfectly as a completely portable TV set under all conditions.
- 4) To provide facilities for easy servicing.

## Block Diagram

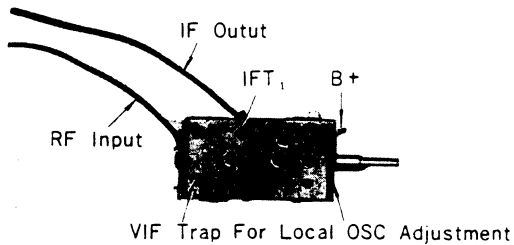


(Fig. 5)

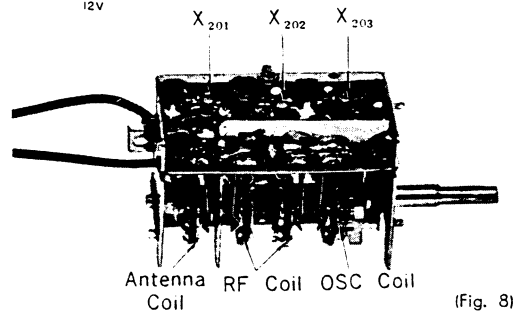
## Block Diagram of Tuner



(Fig. 6)

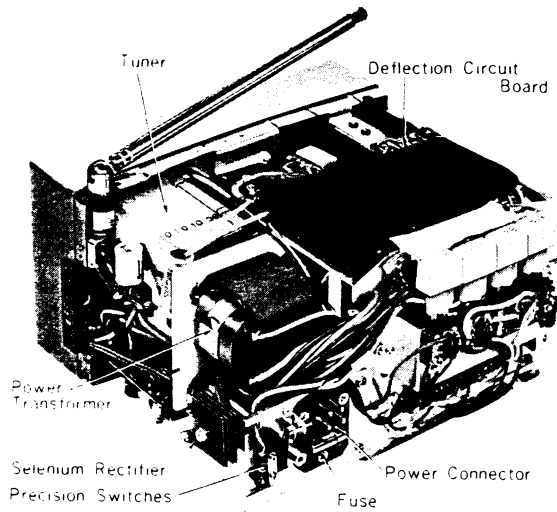


(Fig. 7)

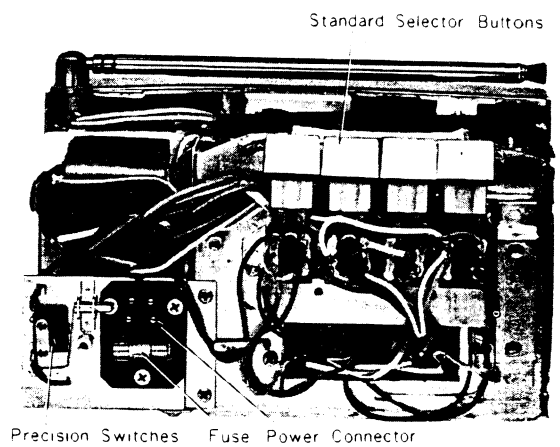


(Fig. 8)

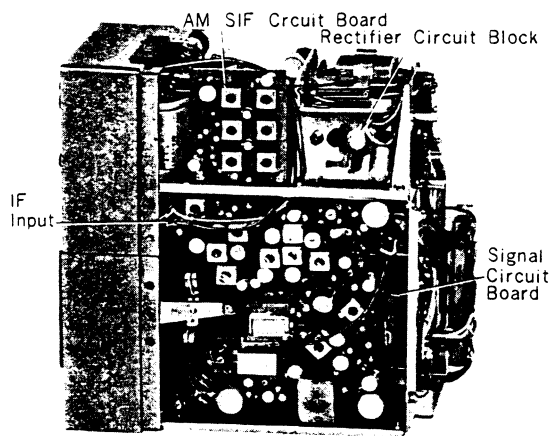
## Electronic Parts Location



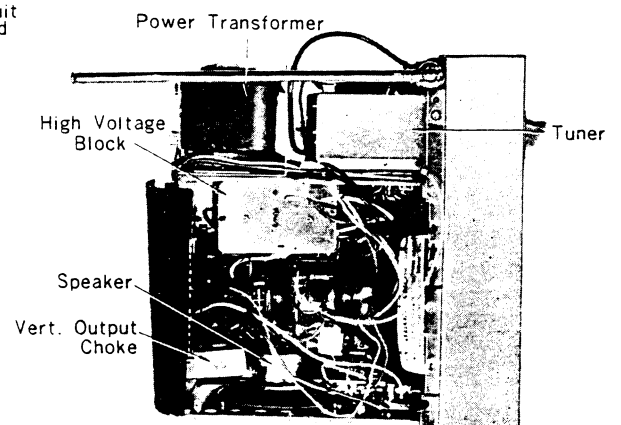
(Fig. 9)



(Fig. 10)



(Fig. 11)



(Fig. 12)

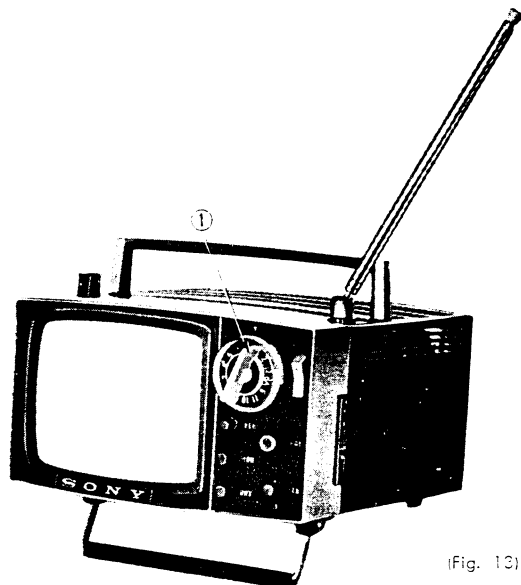
## Method of Disassembling the Set

### To Remove the Front Control Panel

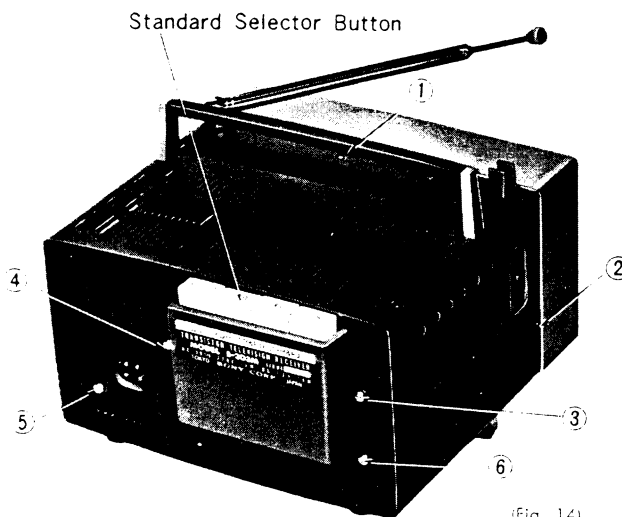
1. Pull all Control Knobs straight out. The Fine Tuning Knob may be somewhat difficult to remove—use force.
2. Remove the two small Screws on the Front Control Panel. The Front Control Panel can now be removed (Fig. 13).

### To Remove the Back Cabinet Cover

1. Press the four Standard Selector Buttons at the same time and lock them. (Fig. 14)
2. Remove Screws ① (located on the top) and ② (located on the left side). Remove Screws ③, ④, ⑤ and ⑥ on the back. The Back Cover can now be removed by pulling straight back. (Fig. 14)



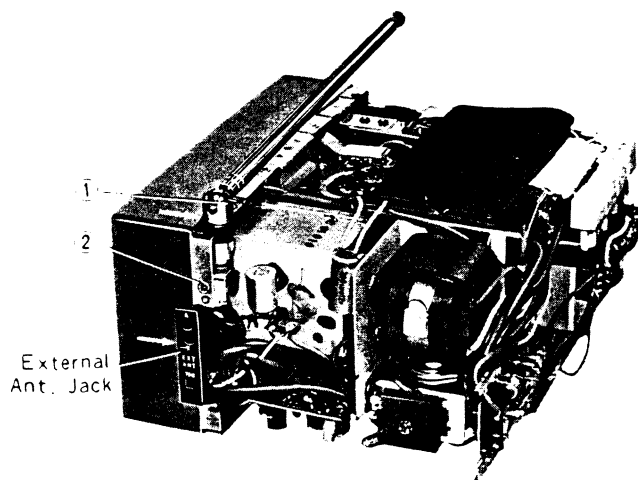
(Fig. 13)



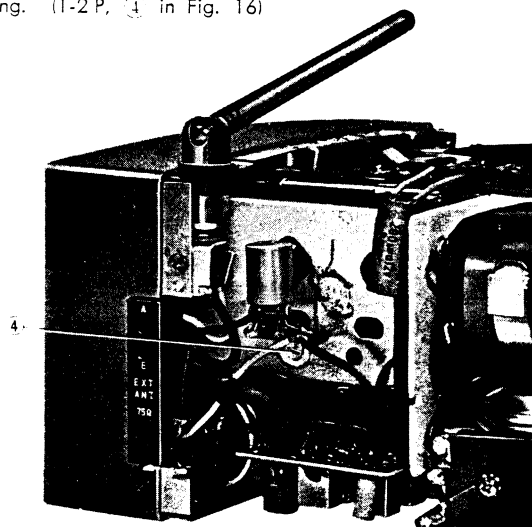
(Fig. 14)

### To Remove the Telescopic Antenna and the Tuner

1. Pull off the Pin Connectors of the Tuner IF Lead Wire and the shielded Ground Wire from the Terminals on the Signal Circuit Board as shown in Fig. 15.
2. Remove Screws ① and ② (Fig. 15).
3. Push the Telescopic Antenna and the External Antenna Connectors in the direction shown by the arrows in Fig. 15. The Telescopic Antenna and the Connectors can now be detached.
4. Remove the Terminal Strip from the Tuner by unsoldering. (1-2 P, ④ in Fig. 16)

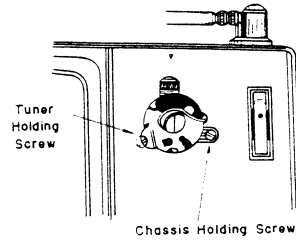


(Fig. 15)

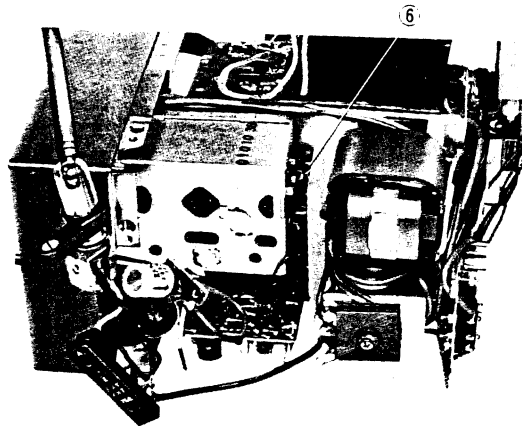


(Fig. 16)

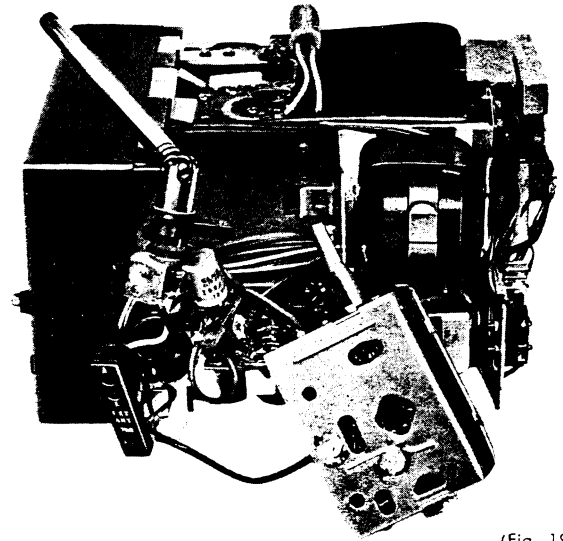
5. The Tuner can be detached by removing two Screws on the front located near the Tuning Control Shaft. One Screw is on the Front Panel and the others inside on the Tuner as shown in Fig. 17.
6. The Tuner, Telescopic Antenna and Antenna Connectors can be removed from the set by unsoldering the Red Wire to the front of the Tuner, the Black Wire to the Chassis and the Yellow Wire with the Resistor to the Antenna Jack. The IF Lead Wire to the Tuner with the Pin Connectors can be pulled through from the back of the Picture Tube. (Fig. 32~33)



(Fig. 17)



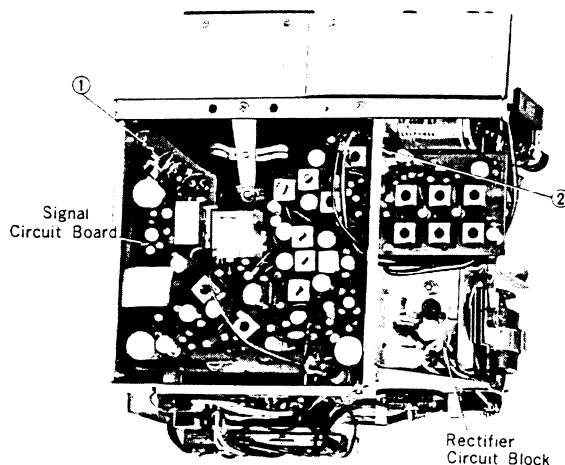
(Fig. 18)



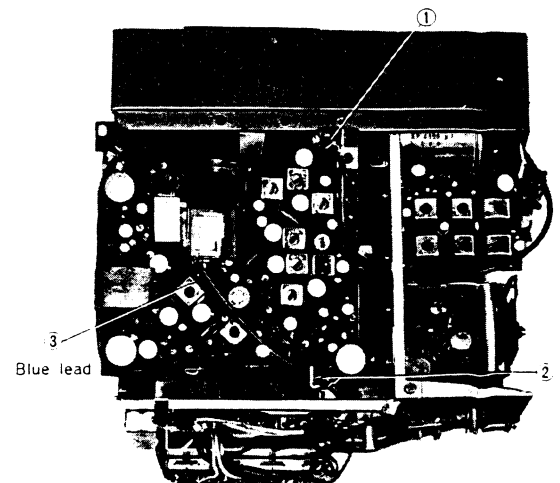
(Fig. 19)

#### To Remove the Signal Circuit Board

1. Remove the Screws (①, ② in Fig. 20).
2. Pull out the Connectors (①, ② in Fig. 21).
3. Unsolder the Blue Lead at the Relay Terminal coming from the "CCIR" Selector Switch (③ in Fig. 21).
4. The Signal Circuit Board can be removed as a unit by pulling directly from the Multi-Jack.



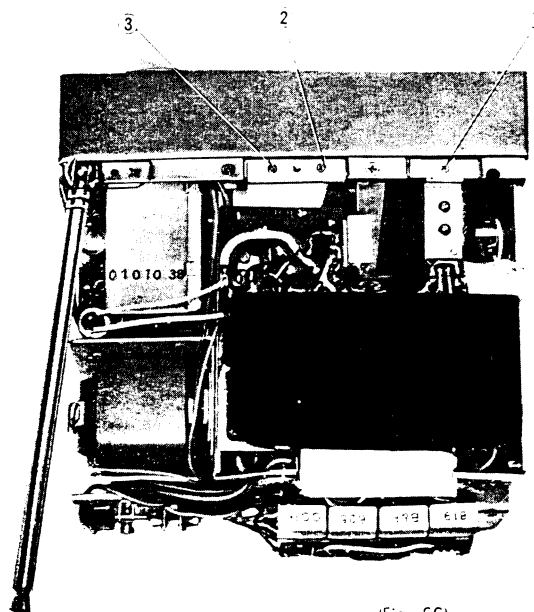
(Fig. 20)



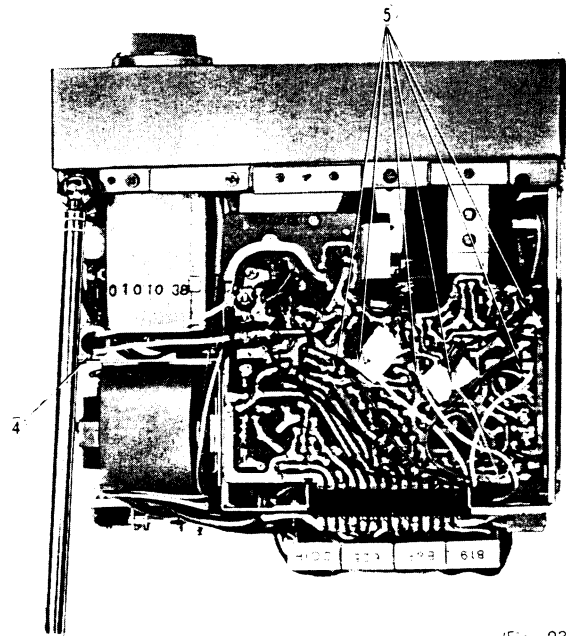
(Fig. 21)

# To Remove the Deflection Circuit Board

1. Remove Screws ①, ② and ③. (Fig. 23)
2. Remove the Electrolytic Capacitor "C810" from the Power Supply by pulling the body (4) in Fig. 23)
3. Unsolder the six leads (5) in Fig. 23, Yellow, Orange, Green, Gray, Violet and White).
4. Pull out the connectors shown in Fig. 24 and Fig. 25.

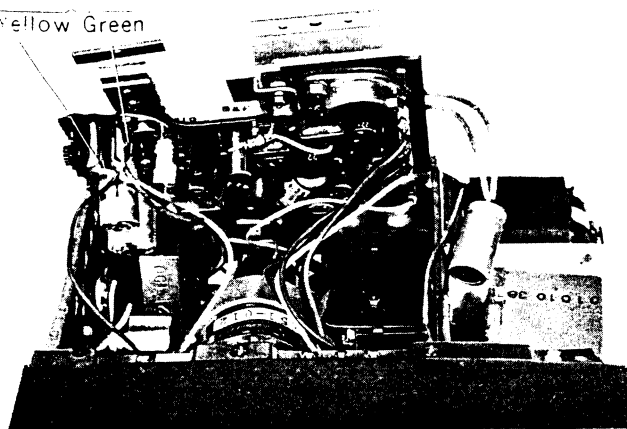


(Fig. 22)



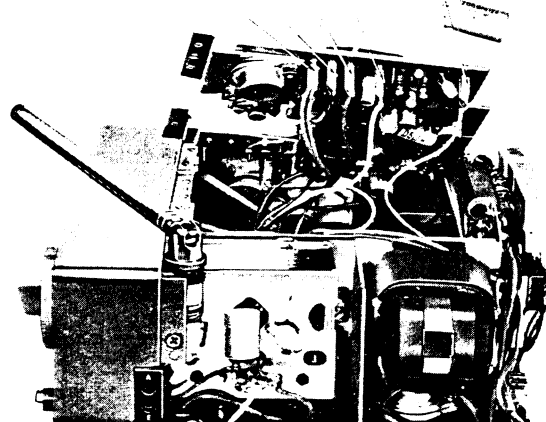
(Fig. 23)

To Deflection  
Yellow Green



(Fig. 24)

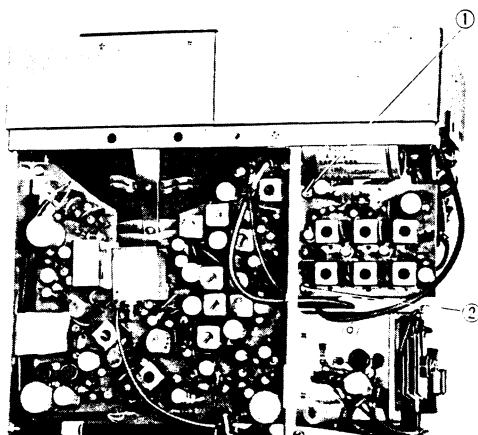
Yellow  
To Picture Tube  
Red Black Blue White



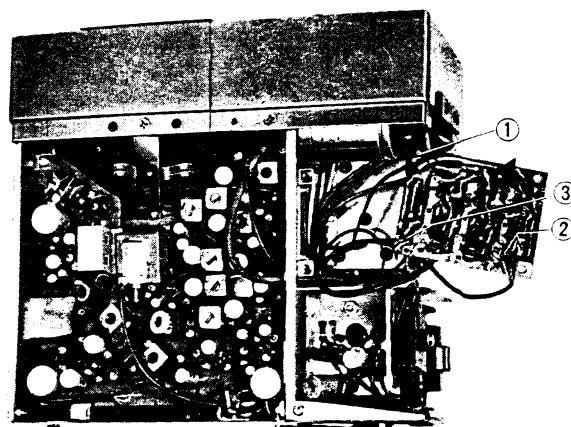
(Fig. 25)

#### To Remove the AM SIF Circuit Board

1. Remove the two Screws (① and ② in Fig. 26)
2. Unsolder the Blue lead (+B lead), the Black Coaxial Cable (Input lead) and the Black Shielded lead (Output lead) (① in Fig. 27).



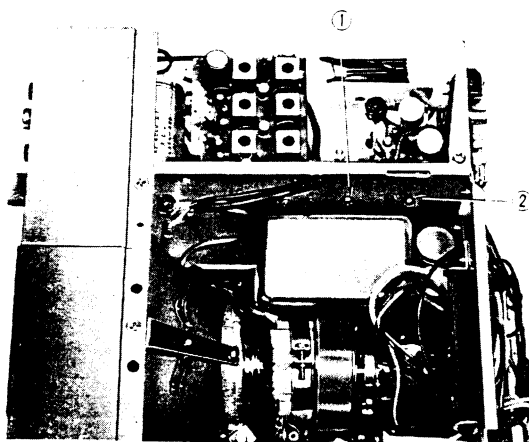
(Fig. 26)



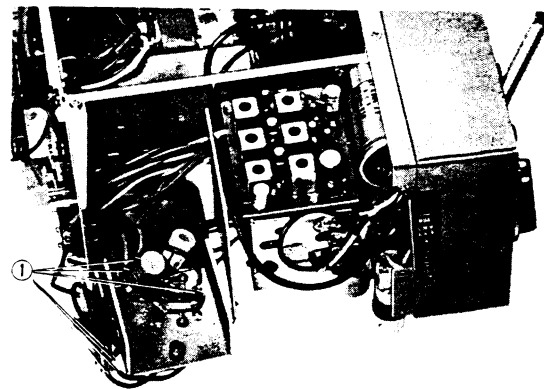
(Fig. 27)

#### To Remove the Rectifier Circuit Board

1. Remove the two Screws. (① and ② in Fig. 28)
2. Unsolder the eight leads. (① in Fig. 29)



(Fig. 28)



(Fig. 29)

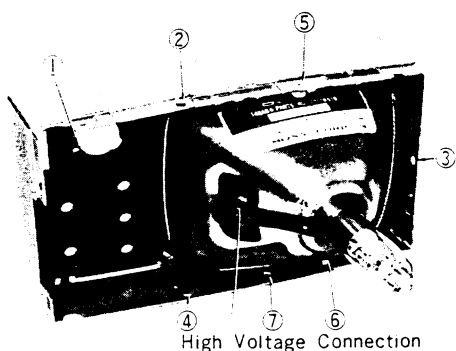
### To Remove the Chassis from the Front Panel

Remove Screws ②, ③ and ④. Remove the Screw ① from the front side after pulling off the Channel Selector Knob and the Fine Tuning Knob (Refer to Fig. 4 on page 3.)

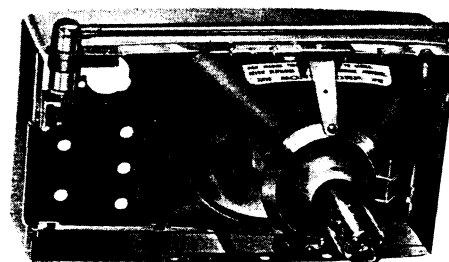
Unsolder the Red, the Blue and the Black Wires from the Pin Connectors. These wires go to the Picture Tube Yoke. Also unsolder the Green Wire from the Choke Coil located just below the Speaker. Pull off the High Voltage Anode Connector from the side of the Picture Tube. This is a Snap Fastener but use caution in removing it. Pull off the Socket of the Picture Tube straight back.

### To Remove the Picture Tube

Remove the Screw and Nuts (⑤, ⑥ and ⑦ shown in Fig. 30) and lift up the Picture Tube.



(Fig. 30)

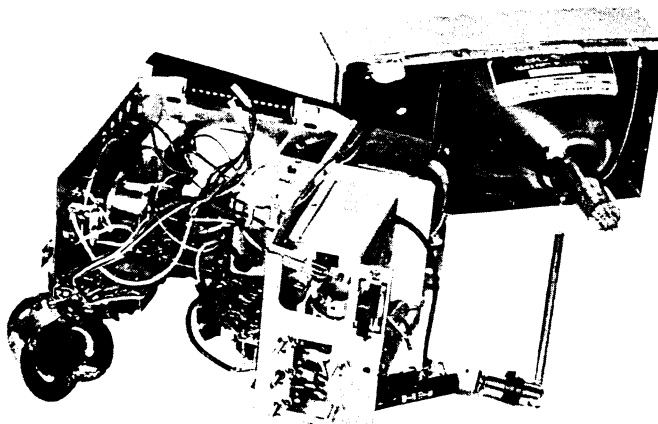


(Fig. 31)

### To Remove the High Voltage Block

1. Unsolder three lead wires (Red, Blue and Black).
2. Pull off the Anode Cap.
3. Pull off the Pulse Supplying Pin Connectors coming from the Signal Circuit Board.
4. Remove the Phillips Screw.

**NOTE:** It is not recommended that the High Voltage Block is disassembled because a special Insulating Material is used inside to coat all High Voltage Points.



(Fig. 32)

## Adjustment and Alignment

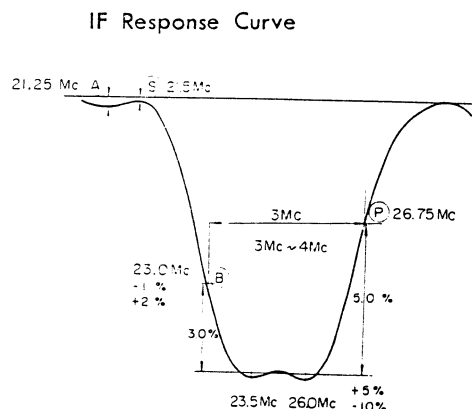
### SIGNAL CIRCUIT ADJUSTMENT

#### A. VIF Adjustment

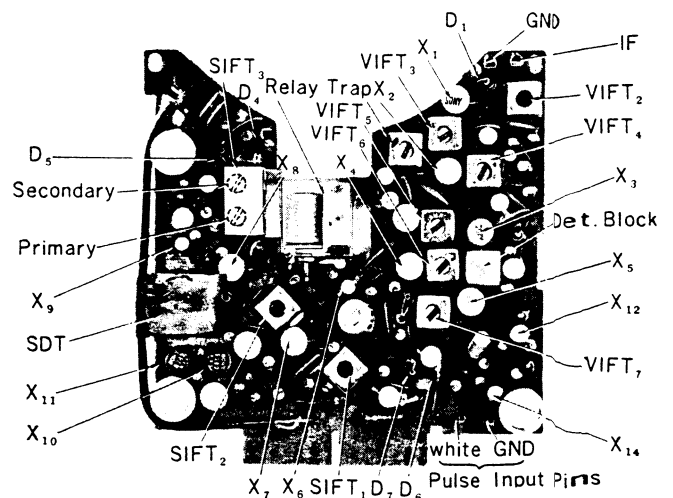
1. Disconnect the Keying Pulse Output Cable (shown by arrow ② in Fig. 20).
2. Connect an Electrolytic Capacitor (500 mfd/120 V) across R316 (10 K $\Omega$ ).
3. Connect a potentiometer (60 K $\Omega$ ) between +12 V line and base of X6 (2SC73).
4. Connect a Voltmeter across C-R301 (1.2 K $\Omega$ ).
5. Adjust the potentiometer to obtain 1.2 V reading on the Voltmeter.
6. Connect the Tuner Output Cable to VIF input pin as shown. (① in Fig. 20)
7. Connect a Sweep Generator and a Marker Generator to the Test Point (T. P.) of the Tuner through a 2 mm fd capacitor.
8. Connect an Oscilloscope across R322.

Step No.	Marker Gen. Frequency	Adjust	Correct Marker position on the response curve	Remarks
1.		VIFT <sub>7</sub>		
2.	21.5 Mc	Trap	Ⓢ (dip)	Set the slug around mid-point of the adjustable range.
3.	26.75 Mc	VIFT <sub>4</sub>	Ⓟ (50%)	
4.	23.0 Mc	VIFT <sub>3</sub>	Ⓟ (30%)	
5.		VIFT <sub>1</sub> (height)		
6.		VIFT <sub>2</sub> (Shape of the curve around summit)		For "normal response curve with maximum height.
7.		VIFT <sub>1</sub> (same)		

\* Normal Response Curve is shown in Fig. 33. The difference in level between Ⓟ and Ⓢ on the curve must be within the range between 16 dB and 26 dB. For convenient checking, it is recommended to measure the height at 21.25 Mc, ⓐ, when the height of the response curve is 5 cm. During the alignment procedure, always keep the 5 cm height (corresponding 1 Vpp output) by adjusting output level of the Sweep Generator. If the height ⓐ is approximately from 1 mm to 2 mm, the difference in level between Ⓟ and Ⓢ is considered approximately as 20 dB.



(Fig. 33)



(Fig. 34)

After adjustment, check AGC operation as follows.

- The response curve will become much higher.

- The response curve will be restored to normal by means of AGC effect.

1. Set the Brightness Control to the optimum and the Contrast Control to the maximum positions.
2. Remove the Tuner Output leads.

Step No.	Equipment	Connection	Freq.	Adjust	Result
1.	Test Oscillator	VIDEO DET OUT	5.5 Mc	SIFT <sub>1</sub>	For minimum 5.5 Mc stripes on the Picture.
2.	Same Voltmeter	Same Between junction of R <sub>214</sub> and C <sub>414</sub> , and ground	5.5 Mc	SIFT <sub>2</sub> Pry. of SIF <sub>3</sub> (pink)	For maximum reading on the Voltmeter.
3.	Sweep Gen. Standard Signal Gen. Oscilloscope	VIDEO DET OUT Same Across C <sub>414</sub>	5.5 Mc (AM)	Sec. of SIF <sub>3</sub> (blue)	For minimum modulated wave.

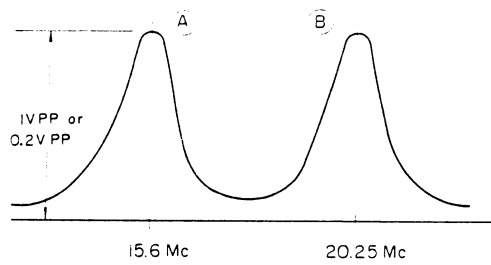
- NOTE:**
1. Repeat the above procedures two or three times.
  2. If S curve is not symmetrical with respect to the intersection of the S curve and the return line, adjust primary winding of SIFT3 for optimum result.

### C. AM SIF Adjustment

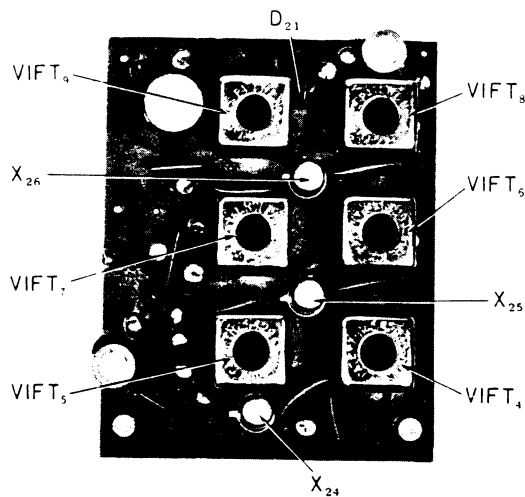
1. Disconnect the Tuner Output Cable (② in Fig. 27) and the SIF Output lead (① in Fig. 27).
2. Connect a Sweep Generator and a Marker Generator to the SIF input (② in Fig. 27).
3. Connect an Oscilloscope in parallel with a 5.1 k $\Omega$  resistor between the SIF Detector out terminal and ground.

Step No.	Peak Value of the Response Curve	Marker Gen. Freq.	Adjust	Result
1.	1 Vpp	15.6 Mc and 20.25 Mc	SIFT <sub>3</sub> SIFT <sub>9</sub>	To position the markers on the relative peak points of the response curve. ((A) & (B))
2.	0.2 Vpp	same	SIFT <sub>4</sub> SIFT <sub>5</sub> SIFT <sub>6</sub> SIFT <sub>7</sub>	
3.	1 Vpp	same		To obtain an optimum response curve. (Fig. 37)
				Check that the response curve is normal. If not, repeat the Steps, 1 and 2.

AM SIF Standard Response Curve



(Fig. 37)



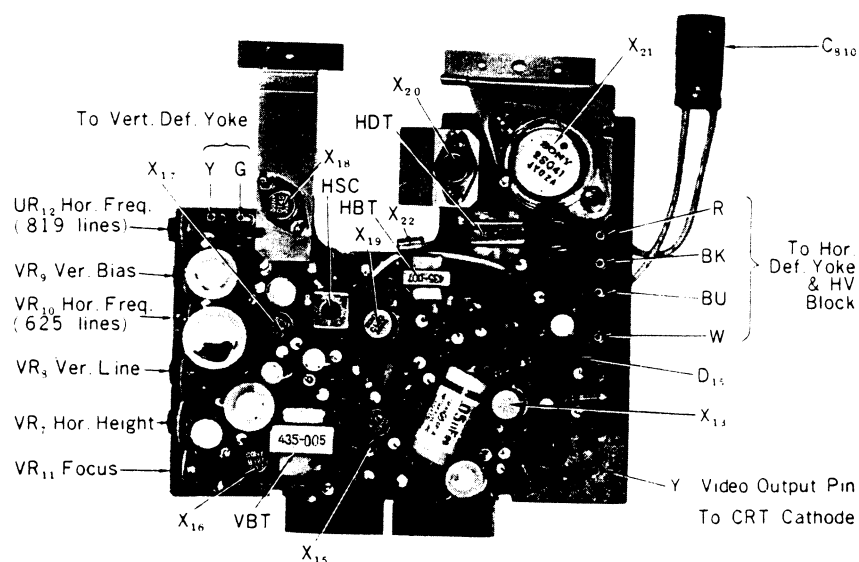
(Fig. 38)

## D. SYNC and DEFLECTION CIRCUIT ADJUSTMENT

Set the receiver to CCIR (625) standard.

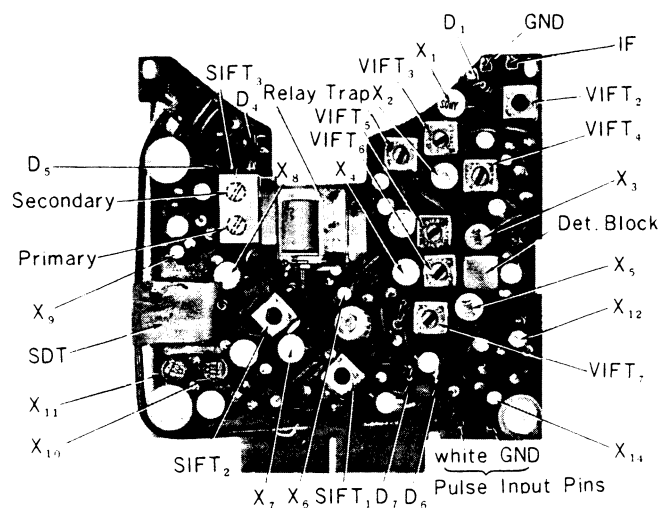
Step No.	Adjustment for	Preparation	Equipment	Connection	Adjust	Result
1.	50 V line	Lock in Sync.	Voltmeter	⊕ side of C <sub>908</sub> and ground	R <sub>908</sub> (8 k~20 kΩ)	For approx. 50 V reading.
2.	Ic of X <sub>13</sub> (VID OUT)	Set to free Channel. Check 12 V and 50 V power supplies.	same	Across R <sub>508</sub>	R <sub>508</sub> (4.3 k~18 kΩ)	For approx. 17 V reading.
3.	Ic of X <sub>18</sub> (Vert. OUT)	Lock in Sync. Check 12 V power supply.	same	Across R <sub>713</sub>	VR <sub>9</sub> (Vert. Bias)	For approx. 0.33 V reading.
4.	Vert. Height and Linearity	Receive a Test Pattern.  Check 12 V power supply.			VR <sub>7</sub> (Vert. Linearity) VR <sub>8</sub> (Vert. Height)	For optimum Vertical Height and Linearity on the pattern.
5.	Pulse Width	Lock in Sync. Short out HSC.	Oscilloscope	Emitter of X <sub>19</sub>	C <sub>914</sub> (0~0.03 μF)	For 10~13 μ sec.
6.	HSC (Horizontal Stability Coil)	Lock in Sync. Receive a Test Pattern.			HSC	So that the picture is stable in either case where HSC is shorted or normal.
7.	Ic of X <sub>20</sub> (Hor. Drive)		Ammeter	Across R <sub>906</sub>	R <sub>906</sub> (2~15 Ω)	For 100 mA reading on the Ammeter.
8.	Horizontal Frequency	Set the Contrast and Brightness Controls to optimum positions. Receive a Test Pattern.			VR <sub>10</sub> (Hor. Freq. 625) VR <sub>12</sub> (Hor. Freq. 819)	To obtain same number of diagonal bars when setting VR <sub>4</sub> to extremely clockwise and counter-clockwise positions.
9.	Focus	Same  Lock in Sync.			VR <sub>11</sub> (FOCUS)	For optimum focus.

NOTE: As the steps, 5 and 6, have influence on each other, the adjustments must be repeated two or three times.

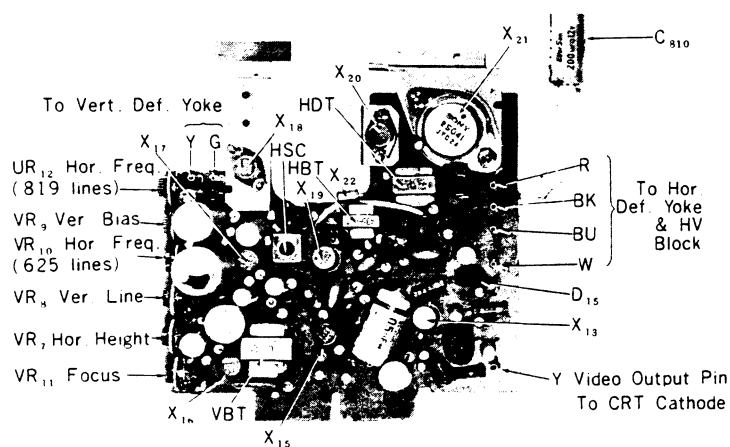


(Fig. 39)

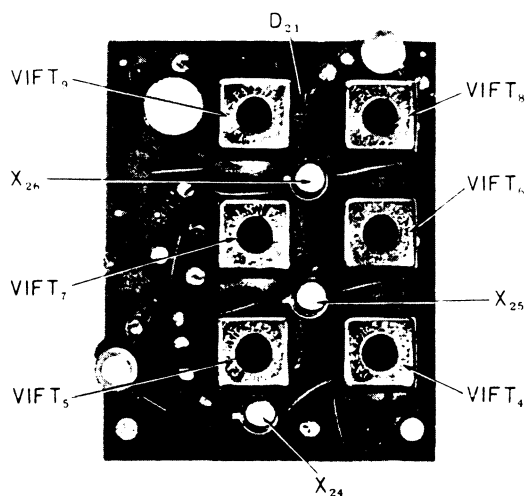
# Electronic Information of Each Section



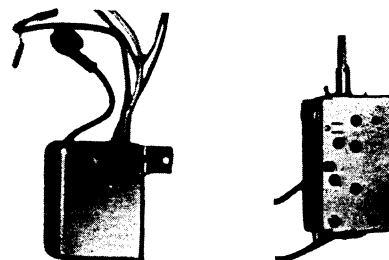
(Fig. 40)



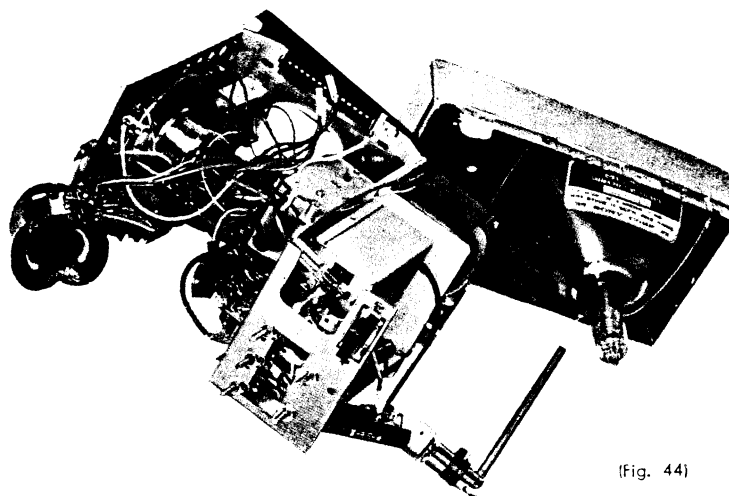
(Fig. 41)



(Fig. 42)



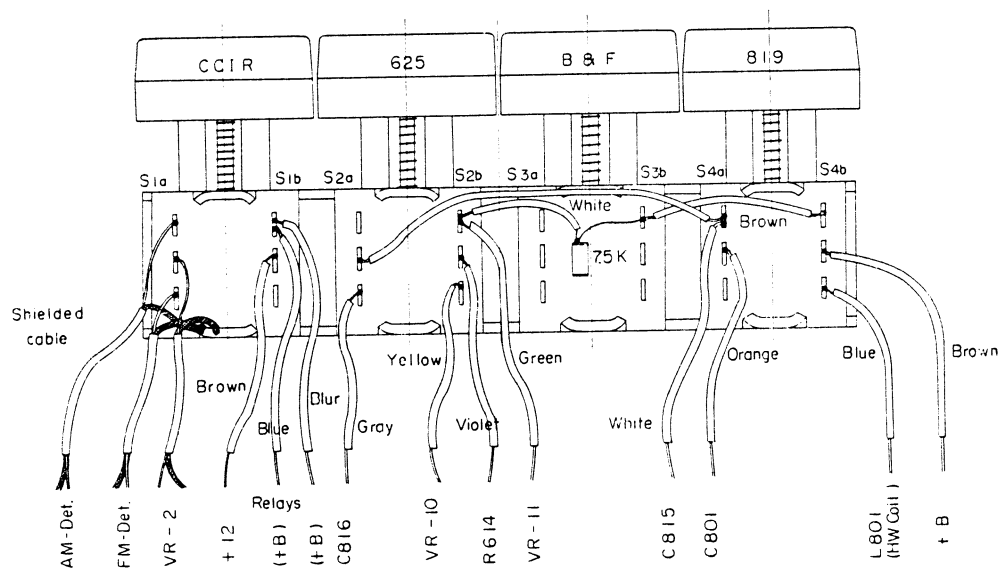
(Fig. 43)



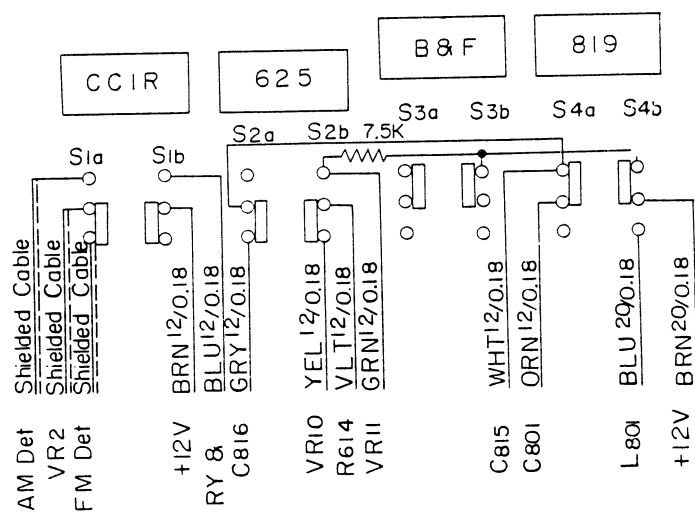
(Fig. 44)

### Wiring Diagram

—Standard Selector Buttons—



(Fig. 45)



Switch Position when CCIR and 625 Buttons are pressed

(Fig. 46)



## Trouble Shooting

### RASTER

Symptom	Checking Procedure		Probable Cause*
1. No Raster and No Sound	Check resistance between B+ and Ground.	No Resistance	Grounded B+ in any of the Circuit Boards. Power Supply
		Approx. 300 $\Omega$	
2. No Raster	Neon Lamp is not lit on.	2. No Raster	
		12. No Sound	
	Neon Lamp is lit on.	Replace the Deflection Circuit Board with a new one.	High Voltage Block
		Heater of the Picture Tube is lit.	Deflection Circuit Board (X <sub>19</sub> ~X <sub>22</sub> , D <sub>9</sub> , HBT, HSC, R <sub>806</sub> , HDT, C <sub>809</sub> , C <sub>810</sub> , D <sub>13</sub> , D <sub>15</sub> ), Poor contact of Multi Jack
3. Dim Raster	Raster Form is normal.	Heater of the Picture Tube is not lit.	1. High Voltage Block 2. Picture Tube 3. Cathode Circuit
		Turn the BRT Knob	1. Picture Tube 2. Picture Tube Socket
	Elongation on left side of Raster.	Raster size does not change.	Picture Tube
		Raster size changes.	High Voltage Block
		Raster is normal.	Deflection Circuit Board (D <sub>15</sub> , C <sub>503</sub> , VR-4)
			High Voltage Block
4. Single Horizontal Stripe on Raster	Replace the Deflection Circuit Board with a new one.	The Stripe still appears.	Deflection Yoke
		The Stripe disappears.	Deflection Circuit Board (X <sub>16</sub> ~X <sub>18</sub> , VBT, C <sub>701</sub> , C <sub>702</sub> , C <sub>704</sub> , C <sub>706</sub> , C <sub>707</sub> , R <sub>713</sub> )
5. Vertical Shrinkage			Deflection Circuit Board (X <sub>16</sub> , X <sub>17</sub> , X <sub>18</sub> , C <sub>702</sub> , C <sub>703</sub> , C <sub>705</sub> ) Maladjustment of Vert. Bias Current
6. Abnormal Raster	Abnormal Oscillation		Deflection Circuit Board (D <sub>13</sub> , HBT, C <sub>810</sub> , C <sub>702</sub> ) Maladjustment of HSC
	Excessive Vertical Width		Deflection Circuit Board (C <sub>705</sub> )
	Narrow Horizontal Width		Deflection Circuit Board (C <sub>805</sub> , C <sub>806</sub> )

### DEFLECTION and SYNC

Symptom	Checking Procedure		Probable Cause*
7. No Picture and No Sound	Replace the Signal Circuit Board with a new one.	No Change	Tuner
		Normal	Signal Circuit Board (X <sub>1</sub> ~X <sub>4</sub> , X <sub>12</sub> , C <sub>401</sub> , C <sub>501</sub> , CR <sub>301</sub> ~CR <sub>304</sub> , VIFT <sub>2</sub> ~VIFT <sub>6</sub> , DET Block)
8. No Picture		Refer to Note on page 25.	Signal Circuit Board (X <sub>1</sub> ~X <sub>4</sub> , VIFT <sub>2</sub> ~VIFT <sub>6</sub> , C <sub>302</sub> , C <sub>303</sub> , C <sub>308</sub> , C <sub>309</sub> , C <sub>312</sub> , C <sub>313</sub> , C <sub>317</sub> , C <sub>318</sub> , C <sub>504</sub> )
			Deflection Circuit Board (X <sub>13</sub> , D <sub>14</sub> , C <sub>504</sub> , C <sub>807</sub> )
9. Low Contrast	Replace the Deflection Circuit Board with a new one.	No Change	Signal Circuit Board (X <sub>1</sub> ~X <sub>4</sub> , X <sub>12</sub> , CR <sub>301</sub> ~CR <sub>304</sub> , D <sub>22</sub> , DET Block, VIFT <sub>2</sub> ~VIFT <sub>6</sub> , C <sub>302</sub> , C <sub>303</sub> , C <sub>308</sub> , C <sub>309</sub> , C <sub>312</sub> , C <sub>313</sub> , C <sub>317</sub> , C <sub>318</sub> )
		Normal	Deflection Circuit Board (X <sub>13</sub> , D <sub>14</sub> , C <sub>504</sub> , C <sub>807</sub> )
10. Saturated Picture	Replace the Deflection Circuit Board with a new one.	No Change	Signal Circuit Board (X <sub>5</sub> , X <sub>6</sub> , X <sub>12</sub> , D <sub>3</sub> , D <sub>6</sub> , C <sub>324</sub> , R <sub>322</sub> , R <sub>502</sub> , Det. Block)
		Normal	Deflection Circuit Board (D <sub>13</sub> , VR-3, R <sub>505</sub> , C <sub>504</sub> )
11. Loss of Synchronization	Replace the Deflection Circuit Board with a new one.	No Change	Signal Circuit Board (X <sub>14</sub> , R <sub>603</sub> , C <sub>603</sub> )
		Normal	Deflection Circuit Board (X <sub>15</sub> , X <sub>19</sub> , D <sub>11</sub> , VBT, HBT, L <sub>801</sub> , C <sub>804</sub> , C <sub>807</sub> , C <sub>809</sub> , R <sub>806</sub> ) Poor contact of Multi-Jack

### SOUND

Symptom	Checking Procedure		Probable Cause*
12. No Sound	Listen with a Earphone.	Sound is heard through the Earphone.	Earphone Jack
		No sound is heard.	Speaker
			Signal Circuit Board (X <sub>7</sub> ~X <sub>9</sub> , SDT, SIFT <sub>1</sub> ~SIFT <sub>3</sub> , CR <sub>401</sub> ) Short of Shielded Wire
13. Weak Sound	Cannot be improved by turning the Fine Tuning Knob.	Replace the Signal Circuit Board with a new one.	AM-SIF Circuit Board (X <sub>23</sub> , X <sub>24</sub> , D <sub>21</sub> , SIFT <sub>4</sub> ~SIFT <sub>8</sub> , C <sub>477</sub> , R <sub>471</sub> )
			Tuner
			Signal Circuit Board (X <sub>8</sub> ~X <sub>11</sub> , D <sub>4</sub> , D <sub>5</sub> , SDT, C <sub>401</sub> , C <sub>402</sub> , C <sub>405</sub> , C <sub>418</sub> , C <sub>422</sub> ) Maladjustment of SIF Circuit
14. Distorted Sound	Listen with a Earphone.	Normal	AM-SIF Circuit Board (X <sub>23</sub> , X <sub>24</sub> , D <sub>21</sub> , SIFT <sub>4</sub> ~SIFT <sub>8</sub> , C <sub>457</sub> , C <sub>460</sub> , C <sub>462</sub> , C <sub>467</sub> , C <sub>469</sub> , C <sub>473</sub> ) Maladjustment of SIF Circuit
			Still distorted
			Speaker
15. Buzz			Signal Circuit Board (X <sub>10</sub> , X <sub>11</sub> , SDT, D <sub>4</sub> , D <sub>5</sub> , C <sub>418</sub> ) Maladjustment of SIFT <sub>3</sub> (Sec.)
			AM-SIF Circuit Board (D <sub>21</sub> , C <sub>425</sub> , C <sub>474</sub> , C <sub>477</sub> ) Maladjustment of SIFT <sub>4</sub> ~SIFT <sub>8</sub>
			Signal Circuit Board (D <sub>4</sub> , D <sub>5</sub> , C <sub>411</sub> , C <sub>414</sub> ) Maladjustment of SIFT <sub>3</sub> (Sec.) Incorrect angle of Shielding Plate

\* The cause of trouble may probably be in any of the listed circuits.

—Tuner—



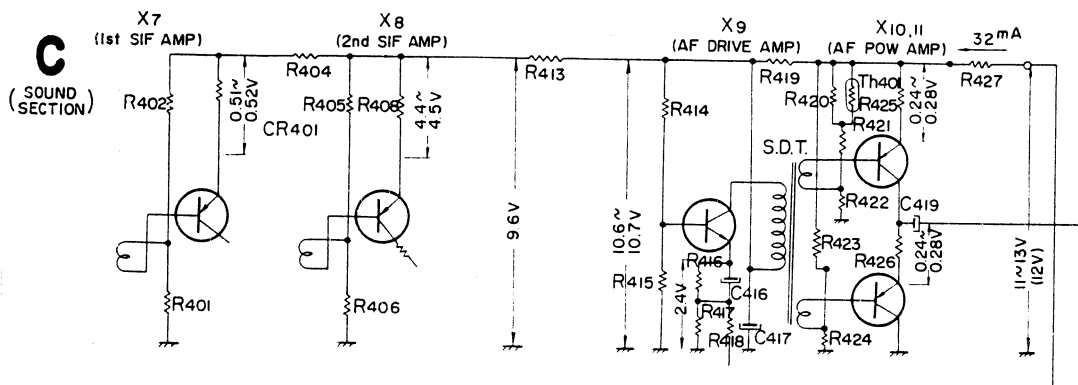
—VIF AMP Circuit—



(Fig. 49)

## Voltage Distribution Chart

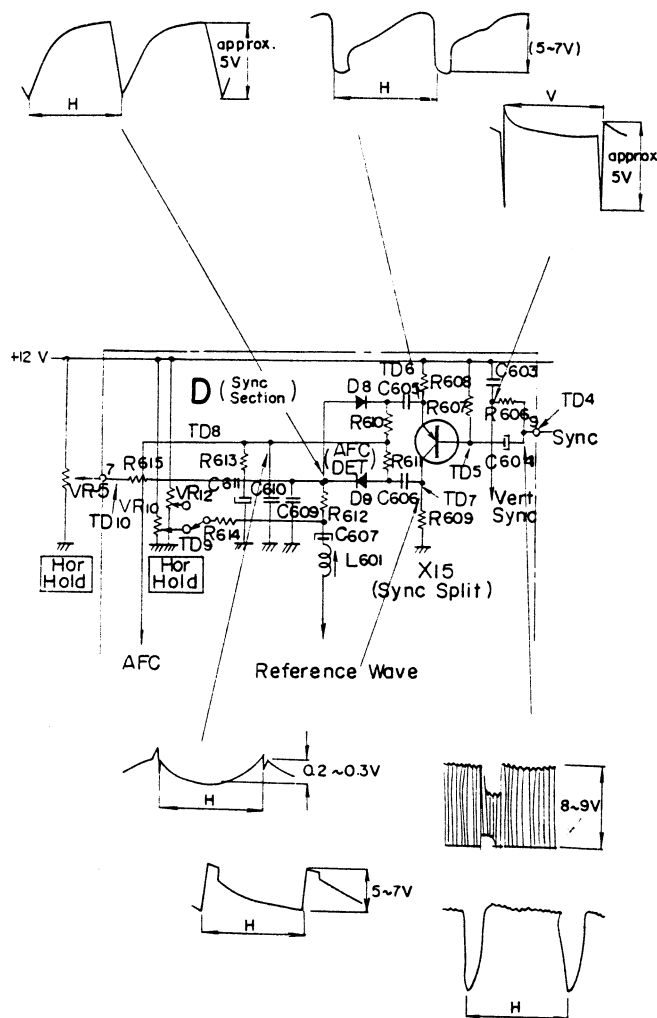
— Sound Circuit —



(Fig. 50)

## Voltage Distribution Chart

— SYNC SPLIT Circuit —

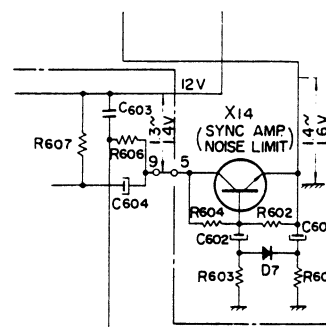


DC Voltage: TD<sub>4</sub>...10V, TD<sub>5</sub>...11.5V, TD<sub>6</sub>...10.5V, TD<sub>7</sub>...1.5V  
TD<sub>8</sub>...5V, TD<sub>9</sub>...6.5V, TD<sub>10</sub>...5.5V

(Fig. 51)

## Voltage Distribution Chart

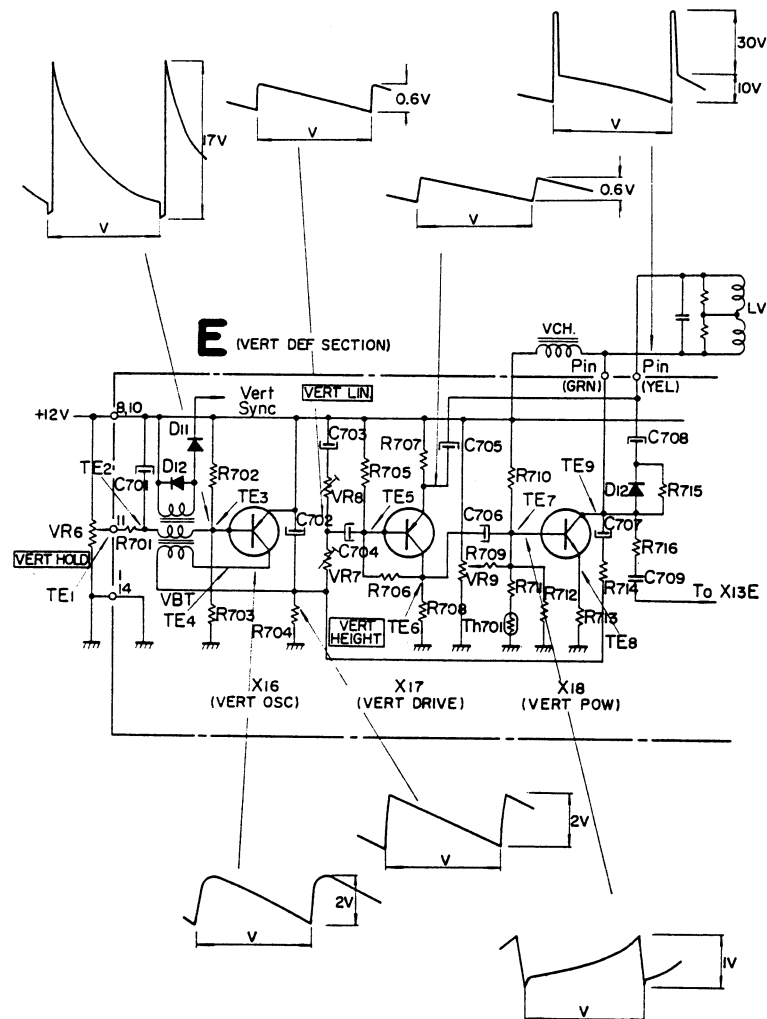
— SYNC SEP, AMP & Noise Limit Circuit —



(Fig. 52)

## Voltage Distribution Chart

—VERT Deflection Circuit—

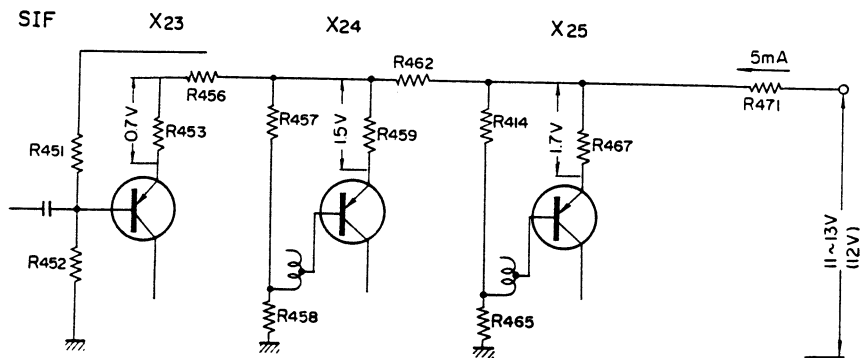


DC Voltage: TE<sub>1</sub>...6~9V, TE<sub>2</sub>...16V, TE<sub>3</sub>...16V, TE<sub>4</sub>...5.5V, TE<sub>5</sub>...11.7V, TE<sub>6</sub>...8.0V, TE<sub>7</sub>...1.0V, TE<sub>8</sub>...0.33V, TE<sub>9</sub>...9.5V

(Fig. 53)

## Voltage Distribution Chart

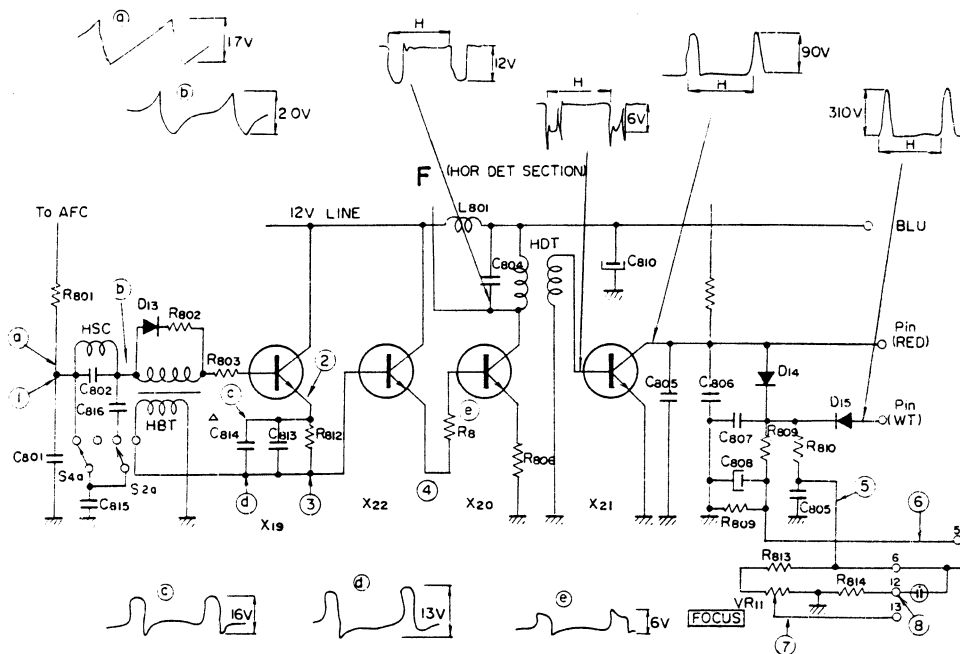
—AM SIF AMP Circuit—



(Fig. 54)

## Voltage Distribution Chart

—HOR DEF Circuit—



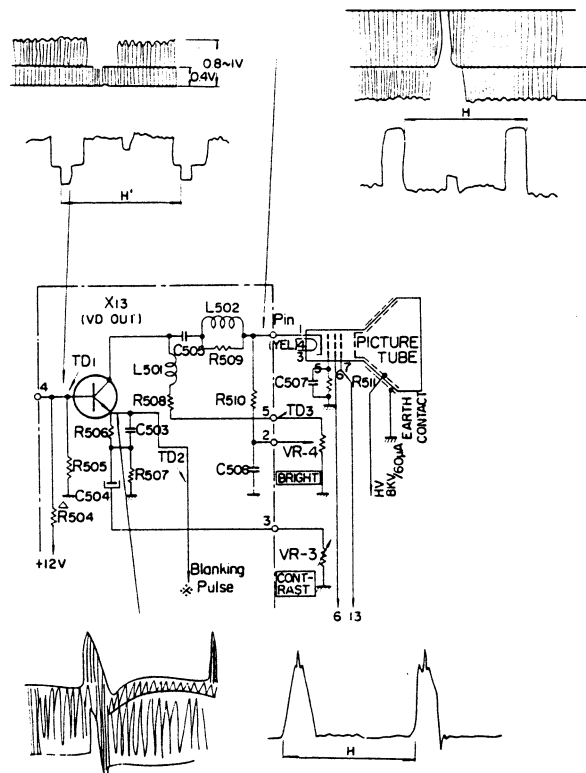
DC Voltage:  $TD_1 \dots 3.2V$ ,  $TD_2 \dots 2.6V$ ,  $TD_3 \dots 50V$

DC Voltage: ①...2.1V, ②...2.7V, ③...0.02V, ④...17V  
⑤...290V, ⑥...50V, ⑦...50~100V, ⑧...230V

(Fig. 55)

## Voltage Distribution Chart

—VIDEO Output Circuit—

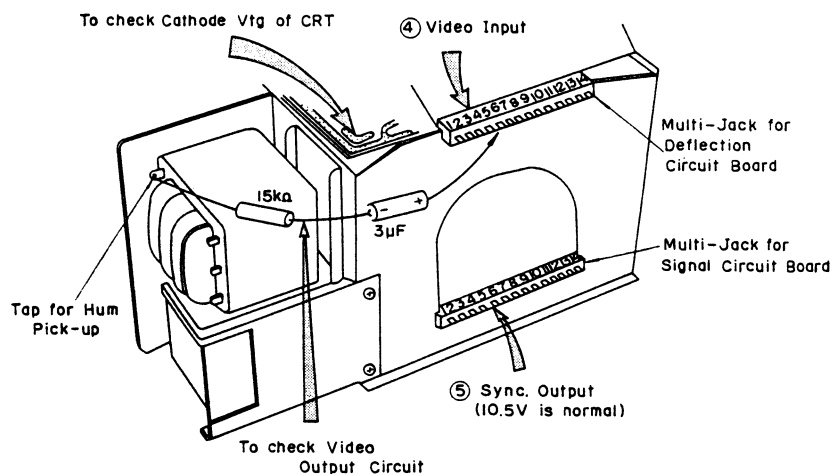


(Fig. 56)

### To Check Video Amp. & Synchronization Circuit

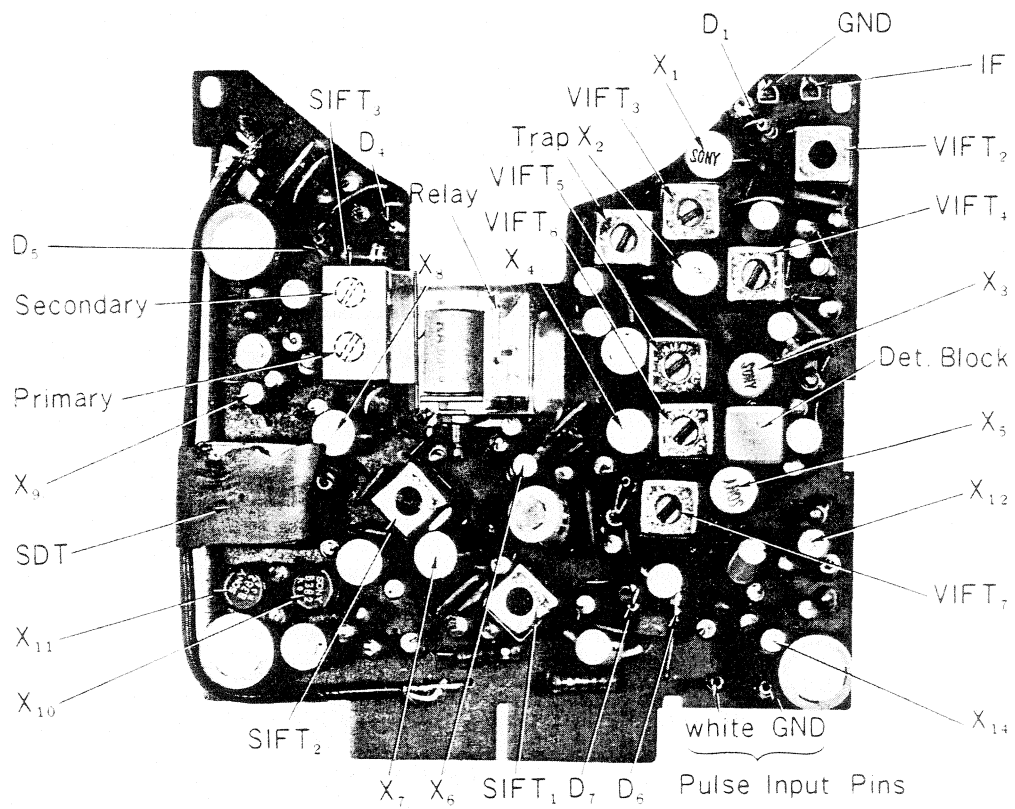
Since the Video Output Circuit of this set is on the Deflection Circuit Board, check the Video Output Circuit as follows.

Apply AC test voltage taken from the secondary winding of the transformer through a  $15K\Omega$  Resistor and a  $3\mu F$ , 500WV or more, Electrolytic Capacitor, to the Terminal No. 4 (The input terminal to the Video Output Circuit) of the Deflection Circuit Board as shown in Fig. 56. If the AC hum appears on the Picture Tube, replace the Signal Circuit Board. If not, replace the Deflection Circuit Board.



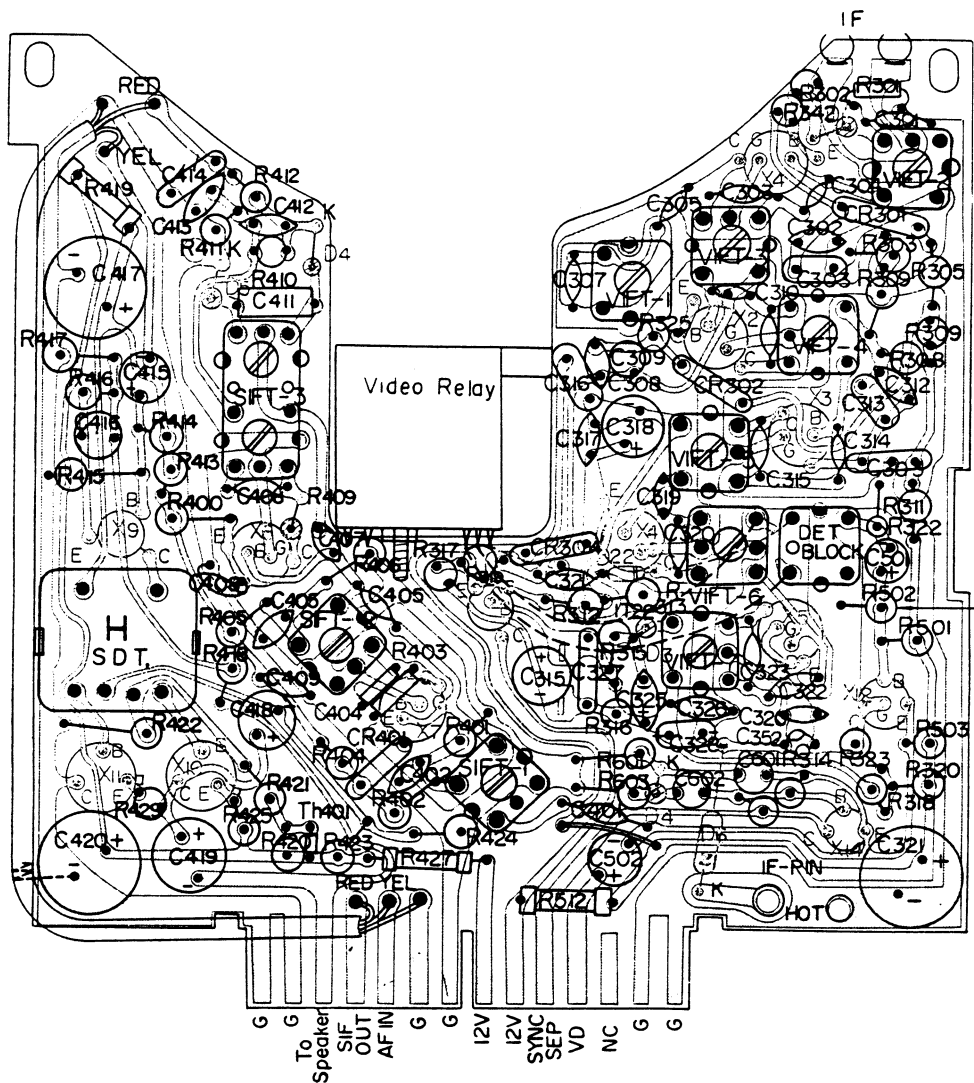
(Fig. 57)

# Signal Circuit Board

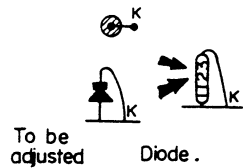
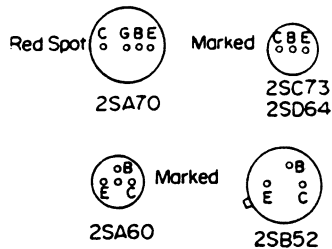


(Fig. 58)

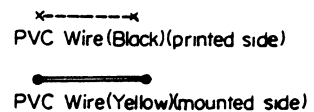
# **Mounting Diagram** —Signal Circuit Board—



Transistor (Bottom View)

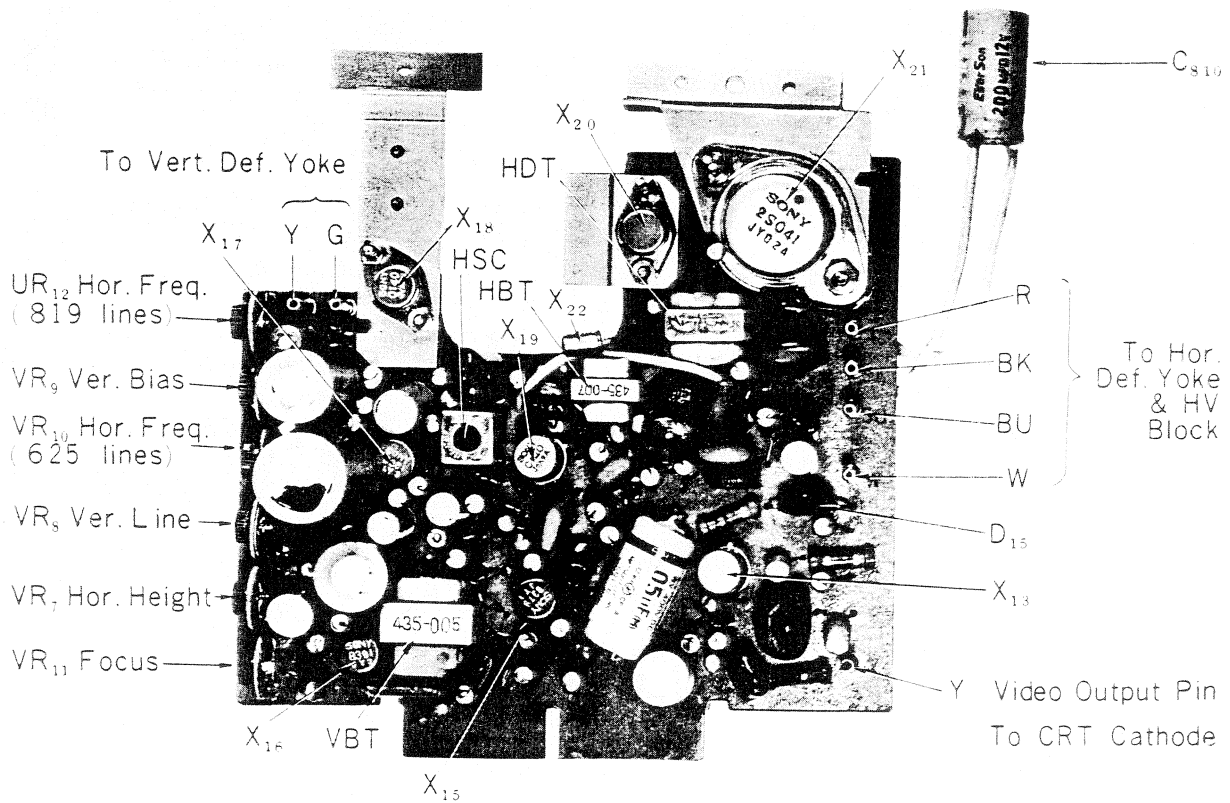


Jumper Wire



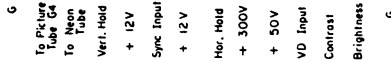
(Fig. 59)

# Deflection Circuit Board



(Fig. 60)

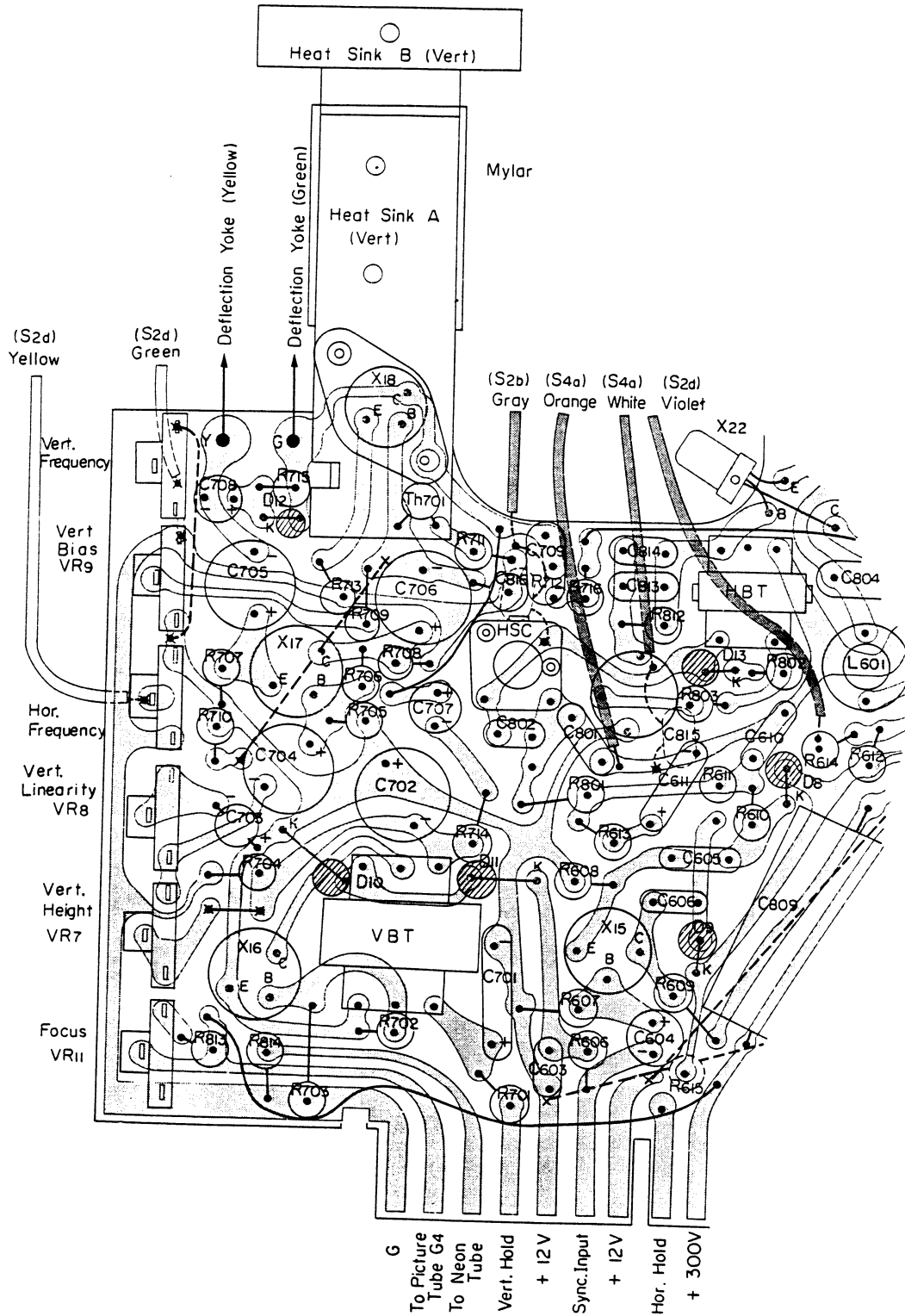
—Deflection Circuit Board—



(Fig. 61)

# Mounting Diagram

—Deflection Circuit Board—  
(for early Set)

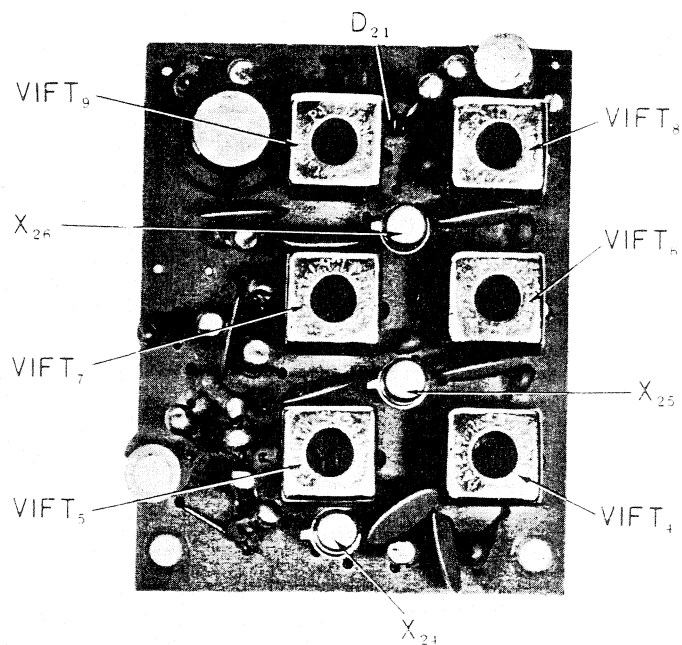


(Fig. 62)

— 31 —



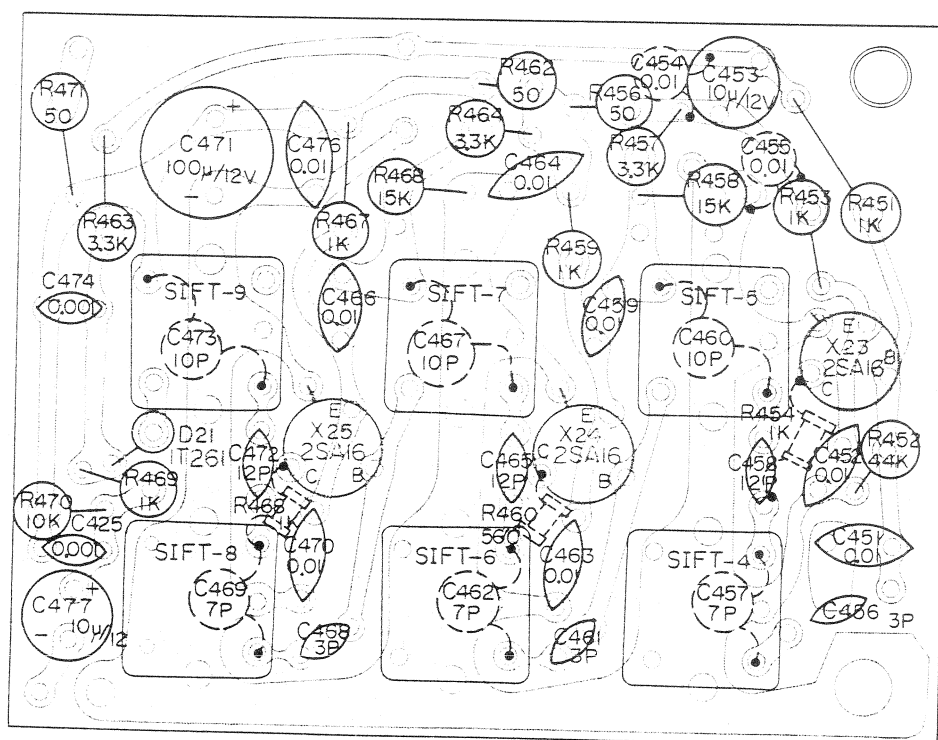
# **AM SIF Circuit Board**



(Fig. 64)

## **Mounting Diagram**

AM SIF Circuit Board



(Fig. 65)

## Electrical Parts List (A)

Part No.	Symbol	Description	Part No.	Symbol	Description
		<b>Transistor</b>	1-403-426-11	VIFT <sub>2</sub>	Video IF Transformer
X <sub>201</sub>		2SA 161 (RF AMP)	-424-02	VIFT <sub>3</sub>	"
X <sub>202</sub>		2SA 161 (MIX)	-425-02	VIFT <sub>4</sub>	"
X <sub>203</sub>		2SA161 (OSC)	-417-02	VIFT <sub>5</sub>	"
X <sub>1</sub>		2SA70 (1st VIF AMP)	-418-02	VIFT <sub>6</sub>	"
X <sub>2</sub>		2SA70 (2nd VIF AMP)	-419-02	VIFT <sub>7</sub>	"
X <sub>3</sub>		2SA70 (3rd VIF AMP)	-306-02	SIFT <sub>1</sub>	Sound IF Transformer
X <sub>4</sub>		2SA70 (4th VIF AMP)	-311-02	SIFT <sub>2</sub>	"
X <sub>5</sub>		2SA70 (AGC AMP)	-310-02	SIFT <sub>3</sub>	IF Transformer for FM Detector
X <sub>6</sub>		2SC73 (DC AMP)	X-40032-85-1	L <sub>201-204</sub>	Tuner Rotary Coil
X <sub>7</sub>		2SA70 (1st SIF AMP)	1-409-029-12	Trap <sub>201</sub>	Video IF Trap Coil
X <sub>8</sub>		2SA70 (2nd SIF AMP)	1-407-001-00	CH <sub>201</sub>	IF Choke Coil
X <sub>9</sub>		2SD64 (AF DRIVE AMP)	-013-03	Trap 1	Sound Signal Trap
X <sub>10</sub>		2SB52 (AF POW AMP)	1-403-420-00	DET	Video Detector Block
X <sub>11</sub>		2SB52 (AF POW AMP)	1-423-048-00	SDT	Sound Driver Transformer
X <sub>12</sub>		2SA60 (VD DRIVE)	1-411-003-11	L <sub>501</sub>	Peaking Coil 470 $\mu$ H
X <sub>13</sub>		2SC15 (VD OVT)	-002-11	L <sub>502</sub>	" 270 $\mu$ H
X <sub>14</sub>		2SC73 (SYNC SEP. AMP, NOISE LIMIT)	-003-11	L <sub>601</sub>	" 470 $\mu$ H
X <sub>15</sub>		2SB382 (SY SPLIT)	1-421-013-11	L <sub>902</sub>	Horizontal Choke Coil
X <sub>16</sub>		2SB381 (VER OSC)	1-435-005-00	VBT	Vertical Blocking Transformer
X <sub>17</sub>		2SB381 (VER DRIVE)	1-421-106-17	VCH	Vertical Output Choke Coil
X <sub>18</sub>		2SC140 (VER POW)	1-413-011-11	HSC	Stabilizing Coil for Horizontal Sweep
X <sub>19</sub>		2SC140 (HOR OSC)	1-435-007-12	HBT	Horizontal Blocking Transformer
X <sub>20</sub>		2SC140 (HOR DRIVE)	1-437-002-00	HDT	Horizontal Driver Transformer
X <sub>21</sub>		2SC41 (HOR POW)	1-439-003-02	HOT	Horizontal Output Transformer
X <sub>22</sub>		2SD65 (HOR BUFFER)	1-441-147-11	PT	Power Transformer
X <sub>23</sub>		2SA163			<b>Potentiometer</b>
X <sub>24</sub>		2SA163	1-221-276-11	VR <sub>2</sub>	Volume Control 5 K $\Omega$ -T
X <sub>25</sub>		2SA163	-275-11	VR <sub>3</sub>	Contrast Control 500 $\Omega$ -E
X <sub>26</sub>		2SD47	-265-11	VR <sub>4</sub>	Brightness Control 250 K $\Omega$ -B
X <sub>27</sub>		2SB382	-297-11	VR <sub>5</sub>	Horizontal Hold Control 10 K $\Omega$ -B
		<b>Diode</b>	-297-11	VR <sub>6</sub>	Vertical Hold Control 10 K $\Omega$ -B
D <sub>1</sub>		1T22AJ	-335-00	VR <sub>7</sub>	Vertical Height Control 1 K $\Omega$ -B
D <sub>2</sub>		1T261J	-326-00	VR <sub>8</sub>	Vertical Linearity Control 500 $\Omega$ -B
D <sub>3</sub>		1T261J	-327-00	VR <sub>9</sub>	Vertical Bias Control 10 K $\Omega$ -B
D <sub>4</sub>		1T23J	-327-00	VR <sub>10</sub>	Horizontal Frequency Control 10 K $\Omega$ -B
D <sub>5</sub>		1T23J		VR <sub>11</sub>	Focus Control 600 K $\Omega$ -B
D <sub>6</sub>		1T22AJ	-351-00		<b>Encapsulated Component</b>
D <sub>7</sub>		1T261J			
D <sub>8</sub>		1T22AJ	1-101-406-01	CR <sub>301</sub>	1.2K $\Omega$ 0.01 $\mu$ F 0.01 $\mu$ F
D <sub>9</sub>		1T22AJ	-406-01	CR <sub>302</sub>	"
D <sub>10</sub>		1T22AJ	-406-01	CR <sub>303</sub>	"
D <sub>11</sub>		1T22AJ	-406-01	CR <sub>304</sub>	"
D <sub>12</sub>		1T22AJ	-406-01	CR <sub>305</sub>	"
D <sub>13</sub>		1T22AJ			
D <sub>14</sub>		1S205			<b>Resistor</b>
D <sub>15</sub>		SD-1LA	1-201-454-01	R <sub>101</sub>	560 $\Omega$ RC $\frac{1}{4}$ L
D <sub>16</sub>		S2A30	1-203-190-00	R <sub>201</sub>	10K $\Omega$ RD $\frac{1}{16}$ L
1-531-103-02	D <sub>17-20</sub>	Selenium Rectifier	1-204-111-11	R <sub>202</sub>	6.8K $\Omega$ RD $\frac{1}{16}$ L
	D <sub>21</sub>	1T261J	-111-11	R <sub>203</sub>	" "
	D <sub>22</sub>	1T261J	1-203-184-00	R <sub>204</sub>	2.2K $\Omega$ RD $\frac{1}{16}$ L
		<b>Thermistor</b>	-188-00	R <sub>205</sub>	7.5K $\Omega$ "
1-800-001-00	Th <sub>201</sub>	S-10K	-182-00	R <sub>206</sub>	1K $\Omega$ "
8-860-003-00	Th <sub>401</sub>	S-90	-181-00	R <sub>207</sub>	390 $\Omega$ "
8-860-005-00	Th <sub>701</sub>	S-300	-185-00	R <sub>208</sub>	4.7K $\Omega$ "
			-889-00	R <sub>209</sub>	27K $\Omega$ "
		<b>HV Rectifier</b>	1-204-204-00	R <sub>210</sub>	240 $\Omega$ "
1-525-039-00		1DK1	1-203-184-00	R <sub>211</sub>	2.2K $\Omega$ "
		<b>Coil and Transformer</b>	-182-00	R <sub>212</sub>	1K $\Omega$ "
		<b>Video IF Transformer</b>	-182-00	R <sub>213</sub>	1K $\Omega$ "
1-403-401-00	VIFT <sub>1</sub>		-460-00	R <sub>214</sub>	2.7K $\Omega$ "

—continued—

Part No.	Symbol	Description	Part No.	Symbol	Description
1-203-190-00	R <sub>215</sub>	10K $\Omega$ RD $\frac{1}{16}$ L	1-203-434-00	R <sub>464</sub>	3.3K $\Omega$ RD $\frac{1}{16}$ RL
-460-00	R <sub>216</sub>	2.7K $\Omega$ "	-629-00	R <sub>465</sub>	15K $\Omega$ "
-187-00	R <sub>217</sub>	6.8K $\Omega$ "	-421-00	R <sub>467</sub>	1K $\Omega$ "
-185-00	R <sub>218</sub>	4.7K $\Omega$ "	-182-00	R <sub>468</sub>	1K $\Omega$ RD $\frac{1}{16}$ L
1-201-457-00	R <sub>301</sub>	1.2K $\Omega$ RC $\frac{1}{8}$ L	-421-00	R <sub>469</sub>	1K $\Omega$ RD $\frac{1}{16}$ RL
1-203-415-00	R <sub>302</sub>	150 $\Omega$ RD $\frac{1}{8}$ RL	-427-00	R <sub>470</sub>	10K $\Omega$ "
-357-00	R <sub>303</sub>	100 $\Omega$ "	1-204-210-11	R <sub>471</sub>	51 $\Omega$ "
-190-00	R <sub>304</sub>	10K $\Omega$ RD $\frac{1}{16}$ L	1-203-400-00	R <sub>501</sub>	120K $\Omega$ RD $\frac{1}{8}$ RL
-414-00	R <sub>305</sub>	47 $\Omega$ RD $\frac{1}{8}$ RL	-386-00	R <sub>502</sub>	15K $\Omega$ "
-889-00	R <sub>306</sub>	27K $\Omega$ RD $\frac{1}{16}$ L	-375-00	R <sub>503</sub>	4.3K $\Omega$ "
-414-00	R <sub>307</sub>	47 $\Omega$ RD $\frac{1}{8}$ RL	-377-00	R <sub>504</sub>	5.1K $\Omega$ "
-368-00	R <sub>308</sub>	1.2K $\Omega$ "	-370-00	R <sub>505</sub>	2.2K $\Omega$ "
-373-00	R <sub>309</sub>	3.3K $\Omega$ "	-354-00	R <sub>506</sub>	33 $\Omega$ "
-414-00	R <sub>311</sub>	47 $\Omega$ "	-367-00	R <sub>507</sub>	1.0K $\Omega$ "
-368-00	R <sub>312</sub>	1.2K $\Omega$ "	-403-00	R <sub>508</sub>	8.2K $\Omega$ "
-370-00	R <sub>313</sub>	2.2K $\Omega$ "	-383-00	R <sub>509</sub>	10K $\Omega$ "
-412-00	R <sub>314</sub>	390 $\Omega$ "	-100-00	R <sub>510</sub>	100K $\Omega$ RD $\frac{1}{4}$ L
-357-00	R <sub>315</sub>	100 $\Omega$ "	1-201-596-00	R <sub>511</sub>	3.3M $\Omega$ RC $\frac{1}{2}$ L
-383-00	R <sub>316</sub>	10K $\Omega$ "	1-203-011-00	R <sub>512</sub>	100 $\Omega$ RD $\frac{1}{4}$ L
-361-00	R <sub>317</sub>	470 $\Omega$ "	-387-00	R <sub>601</sub>	22K $\Omega$ RD $\frac{1}{8}$ RL
-372-00	R <sub>318</sub>	2.7K $\Omega$ "	-383-00	R <sub>602</sub>	10K $\Omega$ "
-368-00	R <sub>319</sub>	12K $\Omega$ "	-759-00	R <sub>603</sub>	120 $\Omega$ "
-404-00	R <sub>320</sub>	200 $\Omega$ "	-411-00	R <sub>604</sub>	330K $\Omega$ "
-370-00	R <sub>322</sub>	2.2K $\Omega$ "	-377-00	R <sub>606</sub>	5.1K $\Omega$ "
-366-00	R <sub>323</sub>	820 $\Omega$ "	-383-00	R <sub>607</sub>	10K $\Omega$ "
1-201-657-00	R <sub>324</sub>	56 $\Omega$ RC $\frac{1}{8}$ L	-368-00	R <sub>608</sub>	1.2K $\Omega$ "
-657-00	R <sub>325</sub>	56 $\Omega$ "	-368-00	R <sub>609</sub>	1.2K $\Omega$ "
1-203-884-00	R <sub>327</sub>	33K $\Omega$ RD $\frac{1}{16}$ L	-363-00	R <sub>610</sub>	1.2K $\Omega$ "
-380-00	R <sub>401</sub>	6.2K $\Omega$ RD $\frac{1}{8}$ RL	-368-00	R <sub>611</sub>	1.2K $\Omega$ "
-373-00	R <sub>402</sub>	3.3K $\Omega$ "	-357-00	R <sub>612</sub>	100 $\Omega$ "
1-201-123-00	R <sub>403</sub>	6.8K $\Omega$ RC $\frac{1}{8}$ L	-368-00	R <sub>613</sub>	1.2K $\Omega$ "
1-203-381-00	R <sub>405</sub>	6.8K $\Omega$ RD $\frac{1}{8}$ RL	-561-00	R <sub>614</sub>	470 $\Omega$ "
-381-00	R <sub>406</sub>	6.8K $\Omega$ "	-385-00	R <sub>615</sub>	15K $\Omega$ "
-375-00	R <sub>408</sub>	4.3K $\Omega$ "	-378-00	R <sub>701</sub>	5.6K $\Omega$ "
1-201-133-00	R <sub>409</sub>	1K $\Omega$ RC $\frac{1}{8}$ L	-405-00	R <sub>702</sub>	1.5K $\Omega$ "
1-203-373-00	R <sub>410</sub>	3.3K $\Omega$ RD $\frac{1}{8}$ RL	-360-00	R <sub>704</sub>	330 $\Omega$ "
-373-00	R <sub>411</sub>	3.3K $\Omega$ "	-360-00	R <sub>705</sub>	330 $\Omega$ "
-367-00	R <sub>412</sub>	1K $\Omega$ "	-377-00	R <sub>706</sub>	5.1K $\Omega$ "
-361-00	R <sub>413</sub>	470 $\Omega$ "	1-207-018-00	R <sub>707</sub>	3 $\Omega$ RW $\frac{1}{4}$ RL
-385-00	R <sub>414</sub>	18K $\Omega$ "	1-203-367-00	R <sub>708</sub>	1.0K $\Omega$ RD $\frac{1}{8}$ RL
-378-00	R <sub>415</sub>	5.6K $\Omega$ "	-773-00	R <sub>709</sub>	2.4K $\Omega$ "
-405-00	R <sub>416</sub>	1.5K $\Omega$ "	-306-00	R <sub>710</sub>	4.3K $\Omega$ "
-351-00	R <sub>417</sub>	5.1 $\Omega$ "	-316-00	R <sub>711</sub>	510 $\Omega$ "
-370-00	R <sub>418</sub>	2.2K $\Omega$ "	-335-00	R <sub>712</sub>	750 $\Omega$ "
-011-00	R <sub>419</sub>	100 $\Omega$ RD $\frac{1}{4}$ L	1-207-018-00	R <sub>713</sub>	3 $\Omega$ RW $\frac{1}{4}$ RL
-356-00	R <sub>420</sub>	75 $\Omega$ RD $\frac{1}{8}$ RL	1-203-857-00	R <sub>714</sub>	620 $\Omega$ RD $\frac{1}{8}$ RL
-315-00	R <sub>421</sub>	10 $\Omega$ "	1-201-147-00	R <sub>715</sub>	18K $\Omega$ RC $\frac{1}{8}$ L
-368-00	R <sub>422</sub>	1.2K $\Omega$ "	1-203-382-00	R <sub>716</sub>	7.5K $\Omega$ RD $\frac{1}{8}$ RL
-368-00	R <sub>423</sub>	1.2K $\Omega$ "	-773-00	R <sub>719</sub>	2.4K $\Omega$ "
-308-00	R <sub>425</sub>	18 $\Omega$ "	-443-00	R <sub>801</sub>	3.0K $\Omega$ "
-308-00	R <sub>426</sub>	18 $\Omega$ "	-857-00	R <sub>802</sub>	620 $\Omega$ "
-006-00	R <sub>427</sub>	27 $\Omega$ RD $\frac{1}{4}$ L	-760-00	R <sub>803</sub>	430 $\Omega$ "
-334-00	R <sub>428</sub>	180 $\Omega$ "	-360-00	R <sub>805</sub>	330 $\Omega$ "
-421-00	R <sub>451</sub>	1K $\Omega$ RD $\frac{1}{16}$ RL	1-207-024-00	R <sub>806</sub>	8.2 $\Omega$ RW $\frac{1}{4}$ RL
-430-00	R <sub>452</sub>	43K $\Omega$ "	1-203-386-00	R <sub>807</sub>	18K $\Omega$ RD $\frac{1}{8}$ RL
-421-00	R <sub>453</sub>	1K $\Omega$ "	-384-00	R <sub>808</sub>	12K $\Omega$ "
-182-00	R <sub>454</sub>	1K $\Omega$ RD $\frac{1}{16}$ L	-399-00	R <sub>809</sub>	100K $\Omega$ "
1-204-210-11	R <sub>456</sub>	51 $\Omega$ RD $\frac{1}{16}$ RL	-031-00	R <sub>810</sub>	1K $\Omega$ RD $\frac{1}{4}$ L
1-203-434-00	R <sub>457</sub>	3.3K $\Omega$ "	-367-00	R <sub>812</sub>	1K $\Omega$ RD $\frac{1}{8}$ RL
-659-00	R <sub>458</sub>	15K $\Omega$ "	-867-00	R <sub>813</sub>	390K $\Omega$ "
-421-00	R <sub>459</sub>	1K $\Omega$ "	-868-00	R <sub>814</sub>	620K $\Omega$ "
-488-00	R <sub>460</sub>	560 $\Omega$ RD $\frac{1}{16}$ L	-306-00	R <sub>901</sub>	4.3K $\Omega$ "
1-204-210-11	R <sub>462</sub>	51 $\Omega$ RD $\frac{1}{16}$ RL	-148-00	R <sub>902</sub>	47 $\Omega$ RD $\frac{1}{4}$ L
1-203-434-00	R <sub>463</sub>	3.3K $\Omega$ "	-377-00	R <sub>903</sub>	5.1K $\Omega$ RD $\frac{1}{8}$ RL

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Part No.	Symbol	Description	Part No.	Symbol	Description
1-203-382-00	R <sub>904</sub>	7.5K $\Omega$ RD $\frac{1}{2}$ RL	1-121-244-11	C <sub>352</sub>	0.1 $\mu$ F 25WV Electrolytic
1-101-001-01	C <sub>101</sub>	0.001 $\mu$ F Ceramic	1-101-112-01	C <sub>401</sub>	50PF Ceramic
-001-01	C <sub>103</sub>	0.001 $\mu$ F "	-004-01	C <sub>412</sub>	0.01 $\mu$ F 250WV Ceramic
-562-11	C <sub>201</sub>	50PF "	-069-01	C <sub>413</sub>	4PF Ceramic
-076-00	C <sub>202</sub>	2PF "	-319-01	C <sub>404</sub>	70PF "
-076-00	C <sub>213</sub>	2PF "	-004-01	C <sub>415</sub>	0.01 $\mu$ F 50WV Ceramic
1-101-030-11	C <sub>204</sub>	200PF "	-004-01	C <sub>416</sub>	0.01 $\mu$ F 50WV "
1-141-060-11	C <sub>205</sub>	Cylindrical Trimmer Capacitor	-085-01	C <sub>407</sub>	6PF Ceramic
1-101-061-11	C <sub>216</sub>	10PF Ceramic	-129-01	C <sub>418</sub>	40PF "
1-101-547-11	C <sub>207</sub>	20PF "	-004-01	C <sub>419</sub>	0.01 $\mu$ F 50WV Ceramic
-553-11	C <sub>208</sub>	0.0012 $\mu$ F "	1-103-023-11	C <sub>411</sub>	400PF Micro Styrole Capacitor
-060-11	C <sub>219</sub>	3PF "	-118-01	C <sub>412</sub>	0.01 $\mu$ F 50WV Ceramic
-562-11	C <sub>210</sub>	Cylindrical Trimmer Capacitor	1-101-118-01	C <sub>413</sub>	0.01 $\mu$ F 50WV "
1-141-060-11	C <sub>212</sub>	"	-086-01	C <sub>414</sub>	0.1 $\mu$ F 50WV "
-060-11	C <sub>213</sub>	"	1-121-104-05	C <sub>415</sub>	10 $\mu$ F 6WV Electrolytic
-038-11	C <sub>214</sub>	5PF Ceramic	-102-05	C <sub>416</sub>	30 $\mu$ F 6WV "
1-101-061-11	C <sub>215</sub>	10PF "	-120-01	C <sub>417</sub>	100 $\mu$ F 12WV "
-061-11	C <sub>216</sub>	Cylindrical Trimmer Capacitor	-135-05	C <sub>418</sub>	50 $\mu$ F 6WV "
-027-11	C <sub>217</sub>	20PF Ceramic	-122-05	C <sub>419</sub>	50 $\mu$ F 12WV "
-547-11	C <sub>218</sub>	0.0012 $\mu$ F "	-121-01	C <sub>420</sub>	200 $\mu$ F 12WV "
-562-11	C <sub>219</sub>	200PF "	1-101-004-11	C <sub>451</sub>	0.01 $\mu$ F 50V Ceramic
-547-11	C <sub>220</sub>	0.012 $\mu$ F "	-004-11	C <sub>452</sub>	" "
-533-11	C <sub>221</sub>	3PF "	1-121-118-11	C <sub>453</sub>	10 $\mu$ F 12WV Electrolytic
1-141-060-11	C <sub>222</sub>	Cylindrical Trimmer Capacitor	1-101-004-11	C <sub>454</sub>	0.01 $\mu$ F 50V Ceramic
-054-11	C <sub>223</sub>	Piston Trimmer A	-011-11	C <sub>456</sub>	3PF 50V "
1-101-553-11	C <sub>224</sub>	3PF Ceramic	-094-11	C <sub>457</sub>	7PF 50V "
-027-11	C <sub>225</sub>	20PF "	-130-11	C <sub>458</sub>	12PF 50V "
-554-11	C <sub>226</sub>	4PF "	-004-11	C <sub>459</sub>	0.01 $\mu$ F 50V "
-547-11	C <sub>227</sub>	0.0012 $\mu$ F "	-094-11	C <sub>460</sub>	7PF 50V "
-201-12	C <sub>228</sub>	0.0018 $\mu$ F "	-011-11	C <sub>461</sub>	3PF 50V "
-733-11	C <sub>229</sub>	30PF "	-094-11	C <sub>462</sub>	7PF 50V "
-072-14	C <sub>231</sub>	0.01 $\mu$ F "	-004-11	C <sub>463</sub>	0.01 $\mu$ F 50V "
-645-01	C <sub>301</sub>	10PF "	-130-11	C <sub>464</sub>	0.01 $\mu$ F 50V "
-001-01	C <sub>302</sub>	0.01 $\mu$ F "	-004-11	C <sub>465</sub>	12PF 50V "
-106-01	C <sub>303</sub>	5 $\mu$ F 6WV Electrolytic	-004-11	C <sub>466</sub>	0.01 $\mu$ F 50V "
-046-01	C <sub>304</sub>	2PF Ceramic	-094-11	C <sub>467</sub>	7PF 50V "
-114-01	C <sub>305</sub>	15PF "	-011-11	C <sub>468</sub>	3PF 50V "
1-101-046-01	C <sub>306</sub>	2PF "	-061-11	C <sub>469</sub>	10PF 50V "
-111-01	C <sub>307</sub>	200PF "	-004-11	C <sub>470</sub>	0.01 $\mu$ F 50V "
-004-01	C <sub>308</sub>	0.01 $\mu$ F 50WV Ceramic	1-121-120-11	C <sub>471</sub>	100 $\mu$ F 12WV Electrolytic
1-121-145-05	C <sub>309</sub>	1 $\mu$ F 6WV Electrolytic	1-101-130-11	C <sub>472</sub>	12PF 50V Ceramic
1-101-036-01	C <sub>310</sub>	3PF Ceramic	-061-11	C <sub>473</sub>	10PF 50V "
-114-01	C <sub>311</sub>	15PF "	-455-11	C <sub>474</sub>	0.01 $\mu$ F 50V "
-004-01	C <sub>312</sub>	0.01 $\mu$ F 50WV Ceramic	-455-11	C <sub>475</sub>	0.01 $\mu$ F 50V "
1-121-106-05	C <sub>313</sub>	5 $\mu$ F 6WV Electrolytic	1-121-118-11	C <sub>477</sub>	10 $\mu$ F 12WV Electrolytic
1-101-046-01	C <sub>314</sub>	2PF Ceramic	-118-11	C <sub>501</sub>	10 $\mu$ F 12WV "
-649-01	C <sub>315</sub>	12PF "	-118-11	C <sub>502</sub>	10 $\mu$ F 12WV "
1-121-106-05	C <sub>316</sub>	5 $\mu$ F 6WV Electrolytic	1-105-669-12	C <sub>503</sub>	0.047 $\mu$ F 50WV Mylar
1-101-004-01	C <sub>317</sub>	0.01 $\mu$ F 50WV Ceramic	1-121-115-05	C <sub>504</sub>	100 $\mu$ F 6WV Electrolytic
1-121-135-05	C <sub>318</sub>	50 $\mu$ F 6WV Electrolytic	1-105-689-12	C <sub>505</sub>	0.22 $\mu$ F 50WV "
1-101-046-01	C <sub>319</sub>	2PF Electrolytic	-721-12	C <sub>506</sub>	0.047 $\mu$ F 100WV "
-645-01	C <sub>320</sub>	10PF "	-681-12	C <sub>507</sub>	0.047 $\mu$ F 50WV M
1-121-121-01	C <sub>321</sub>	200 $\mu$ F 12WV Electrolytic	1-127-906-00	C <sub>601</sub>	1 $\mu$ F 10WV Electrolytic (Alox)
1-101-069-01	C <sub>322</sub>	4PF Ceramic	-907-00	C <sub>602</sub>	3 $\mu$ F 6WV " "
-627-01	C <sub>323</sub>	6PF "	1-105-681-12	C <sub>603</sub>	0.047 $\mu$ F 50WV Mylar
-424-01	C <sub>324</sub>	500PF 25WV Ceramic	1-127-906-00	C <sub>604</sub>	1 $\mu$ F 10WV Electrolytic (Alox)
-058-01	C <sub>325</sub>	0.05 $\mu$ F 50WV "	1-105-679-12	C <sub>605</sub>	0.033 $\mu$ F 50WV Mylar
-004-01	C <sub>326</sub>	0.01 $\mu$ F 50WV "	-673-12	C <sub>606</sub>	0.01 $\mu$ F 50WV "
-086-01	C <sub>327</sub>	0.1 $\mu$ F 50WV "	1-127-906-00	C <sub>607</sub>	1 $\mu$ F 10WV Electrolytic (Alox)
1-121-116-05	C <sub>328</sub>	1 $\mu$ F 12WV Electrolytic	1-105-685-12	C <sub>609</sub>	0.01 $\mu$ F 50WV Mylar
1-101-004-01	C <sub>329</sub>	0.01 $\mu$ F 50WV Ceramic	1-127-905-00	C <sub>701</sub>	5 $\mu$ F 10WV Electrolytic (Alox)
1-121-115-01	C <sub>351</sub>	100 $\mu$ F 6WV Electrolytic	1-121-141-05	C <sub>702</sub>	100 $\mu$ F 12WV Electrolytic
			-118-05	C <sub>703</sub>	10 $\mu$ F 12WV "
			-122-05	C <sub>704</sub>	50 $\mu$ F 12WV "

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Part No.	Symbol	Description	Part No.	Symbol	Description
1-121-161-05	C <sub>705</sub>	500 $\mu$ F 6WV Electrolytic	1-105-681-12	C <sub>813</sub>	0.047 $\mu$ F 50WV Mylar
-122-05	C <sub>706</sub>	50 $\mu$ F 12WV "	-679-12	C <sub>814</sub>	0.033 $\mu$ F 50WV "
-164-05	C <sub>707</sub>	10 $\mu$ F 12WV "	-675-12	C <sub>815</sub>	0.015 $\mu$ F 50WV "
-136-05	C <sub>708</sub>	2 $\mu$ F 50WV "	-679-12	C <sub>816</sub>	0.033 $\mu$ F 50WV "
1-105-637-00	C <sub>709</sub>	0.2 $\mu$ F Mylar	-753-12	C <sub>817</sub>	0.01 $\mu$ F 200WV "
-669-12	C <sub>801</sub>	0.047 $\mu$ F 50WV Mylar	1-109-010-11	C <sub>901</sub>	200PF 500V Mica
-681-12	C <sub>802</sub>	0.047 $\mu$ F 50WV "	-010-11	C <sub>902</sub>	200PF 500V "
-685-12	C <sub>804</sub>	0.1 $\mu$ F 50WV "	1-121-245-11	C <sub>903</sub>	1000 $\mu$ F 15WV Electrolytic
1-105-122-11	C <sub>805</sub>	0.055 $\mu$ F "	-245-11	C <sub>904</sub>	1000 $\mu$ F 15WV "
-757-12	C <sub>806</sub>	0.022 $\mu$ F 200WV "	-082-11	C <sub>905</sub>	100 $\mu$ F 15WV "
-721-12	C <sub>807</sub>	0.047 $\mu$ F 100WV "	1-121-139-11	C <sub>906</sub>	50 $\mu$ F 15WV "
1-121-148-05	C <sub>808</sub>	1 $\mu$ F 100WV Electrolytic	-003-11	C <sub>907</sub>	4000 $\mu$ F 15WV "
1-115-046-00	C <sub>809</sub>	0.05 $\mu$ F 400WV Oil	-121-11	C <sub>908</sub>	2000 $\mu$ F 12WV "
1-121-220-11	C <sub>810</sub>	200 $\mu$ F 12WV Electrolytic			

### Electrical Parts List (B)

Part No.	Description	Q'ty	Part No.	Description	Q'ty
	<b>A. General</b>		1-525-039-00 -039-03	High Voltage Rectifier 1DK1 HV1, 2, 3	3
	Video Signal Block			<b>C. Wires &amp; Miscellaneous</b>	
1-538-110-03	Printed Circuit Board	1		Video Signal Block	
1-506-108-00	Connecting Pin	2		Thermo Stable PVC Wire, Black	mm
1-507-109-00	Connecting Tip	4		16/0.16 1.5 $\phi$ in Diameter	200
1-515-024-11	Relay	1		Cable (Two Conductors) Black	170
	Deflection Block			Spaghetti Gray 23 mm	26
1-538-124-11	Printed Circuit Board	1		Deflection Block	
1-506-108-00	Connecting Pin	7		Thermo Stable PVC Wire	
4-003-051-01	Ceramic Spacer	2		Yellow 0.6 $\phi$	125
	Sound IF Block			Black 16/0.12	155
1-538-254-11	Printed Circuit Board	1		Black 26/0.16	120
	High Voltage Block			Black 26/0.16	35
1-453-001-02	High Voltage Block (Complete)	1		Main Block	
	Deflection Yoke Block			PVC Wire	
1-451-012-12	Deflection Yoke (Complete)	1		Red 12/0.18 1.5 $\phi$ in Diameter	
	Main Block			Orange " " "	
1-502-068-02 -068-04	Speaker	1		Yellow " " "	
1-506-020-11	4 Pole Plug for Power Receptacle	1		Green " " "	
1-507-203-00	Multi-Jack	2		Blue " " "	
1-513-176-03 -176-13	Power ON-OFF Switch	1		Gray " " "	
1-526-052-03 -052-04	Picture Tube Socket	1		White " " "	
1-532-031-11	Fuse	1		Brown " " "	
X-40026-29-0	Neon Lamp with Holder	1		Black " " "	
1-514-081-11	Micro Switch	1		Violet " " "	
4-002-713-01	Micro Switch Actuator	1		Black 20/0.18 2 $\phi$	
1-531-103-02 -106-16	Selenium Rectifier	1		Brown " " "	
1-536-045-11	Terminal Plate (2P)	1		Red " " "	
1-514-138-11	Push Button Switch for System Selection	1		Gray " " "	
1-536-083-11	Terminal Plate (1-4P)	1		White " " "	
	Cabinet & Appearance Block			Cables (Two Conductors) 7/0.12 Black	335
1-507-047-00	Double Jack	1		" " " 12/0.12 Gray	
-065-11	Antenna Jack	1	7-631-102-04	Tinned Copper Wire 0.6 $\phi$	80
				" " " 1.0 $\phi$	100
				Spaghetti Yellow 1 $\phi$	35
				Braided Wire 16/14/0.02	160
				Coaxial Cable	
7311-510	Picture Tube 140CB4	1			

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Part No.	Description	Q'ty	Part No.	Description	Q'ty
Y-44032-85-1	Tuner Block Complete	1	X-40049-53-1	Deflection Block Complete	1
X-40049-51-1	Video Signal Block Complete	1	1-453-001-02	High Voltage Block Complete	1
-52-1	SIF Block Complete	1	1-451-012-11	Deflection Yoke	1

### Mechanical Parts List

Part No.	Description	Q'ty	Part No.	Description	Q'ty
<b>A. General</b>			4-004-912-01	Double Clamp for Capacitor	1
<b>Cabinet &amp; Appearance Block</b>			4-002-800-02	Heat Sink	1
4-002-603-03	Cabinet Front	1	4-004-918-01	SP Holding Bracket	1
-604-01	Picture Tube Mask	1	4-002-646-01	Earphone Jack Plate	1
-611-00	Antenna Bushing	1	-819-01	SP Cushion Rubber	1
-765-01	Picture Tube Protector	1	-806-03	SP Holding Screw	4
-781-00	Rubber Band for Picture Tube	1	-647-00	Multi-Jack Holding Bracket	2
-782-00	Black Spacer (upper) for Tube Clamp	1	-785-00	Fiber Washer for Video Signal Board	1
-783-00	Black Spacer (lower) for Tube Clamp	1	X-40026-16-2	4 Pole Plug Mounting Bracket	1
-784-00	Deflection Yoke Spacer	1	4-002-653-01	Micro Switch Connecting Pin	1
X-40026-50-0	Picture Tube Clamp Ass'y, including	1	-674-00	Spacer for Micro Switch	1
4-002-778-00	Picture Tube Clamp	(1)	3-815-521-11	Push Button "CCIR"	1
-779-00	Tube Holding Bracket	(1)	-521-12	" " "625"	1
-780-00	Earth Spring	(1)	-521-13	" " "B and F"	1
X-40026-72-2	Telescopic Antenna Ass'y, including	1	-521-14	" " "819"	1
X-40026-71-2	Telescopic Antenna	(1)	X-40026-66-0	Video Signal Block	1
4-002-715-00	Antenna Washer	(1)		Shield Plate	1
-716-00	Antenna Holding Bracket	(1)	<b>Deflection Block</b>		
-717-00	Insulator Bushing	(1)	4-002-680-01	Heat Sink for Hor. Power Transistor (A)	1
-718-00	Antenna Lug	(1)	-681-01	" (B)	1
-727-00	Antenna Holding Nut	(1)	-682-03	Heat Sink for Vert. Power Transistor (A)	1
-728-00	Antenna Holding Lock Nut	(1)	-682-02	" (B)	1
-764-00	Antenna Tip (Red Ball)	(1)	-683-01	Mylar Insulator for Vert. Power Transistor	1
X-40049-02-1	Cabinet Back	1	-685-00	Bakelite Washer for Heat Sink	2
-904-01	Insulating Fiber	1	-686-01	Black Sheet on Deflection Circuit Board	1
-905-01	Specification Label	1	4-003-051-01	Ceramic Washer	2
4-002-847-02	Telescopic Antenna Clamper	1	<b>Accessories and Packing Materials</b>		
X-40026-05-0	Carrying Handle	1	4-002-766-01	Carrying Bag	1
X-40026-06-2	Table Stand Ass'y, including	1	X-40049-06-1	Carton Box for Carrying Bag	1
4-002-623-02	Table Stand	(1)	X-40026-48-7	Master Carton for Two Sets	1/2
-791-00	Table Stand Holding Bracket (Right)	(1)	4-002-771-00	Styro-Foam Cushion	2
-790-00	" (Left)	(1)		(Outside of Carrying Case)	
-788-00	Table Stand Cushion	(1)	4-004-913-01	(Front Inside of Carrying Case)	1
-789-01	Table Stand Holding Screw	(2)	-914-01	(Back Inside of Carrying Case)	1
-732-02	Friction Spring for Table Stand	(2)	4-002-773-00	(Bottom Inside of Carrying Case)	1
	Screw $\oplus R2 \times 6$ Black	(3)	-669-00	Polyethylene Bag for Set	1
	Nut 2.6 $\phi$ for Table Stand Holding Screw	(2)	-770-00	" for Carrying Bag	1
4-002-730-00	Rubber Foot	2	4-495-053-75	Instruction Manual	1
X-40049-01-1	Channel Selector Knob	1	X-40049-07-1	Caution Tag Assembly, including	1
X-40026-10-3	Fine Tuning Knob	1	4-003-032-01	Inspection Sheet	(1)
-11-0	Volume Control Knob	1	4-498-053-15	Tag for the best reception (English)	(1)
4-002-762-00	Vertical Hold Control Knob	1	-053-40	" (French)	(1)
-635-00	Control Knob	3	4-493-053-75	Caution Tag	(1)
-761-00	Control Panel	1	X-44900-02-1	Set Polishing Cloth	1
-742-00	Badge "SONY"	1	X-40029-04-1	Accessory Case Assembly, including	1
<b>Main Block</b>			4-002-667-00	Accessory Carton Box	(1)
4-004-906-01	Chassis	1	1-534-041-03	AC Power Cord (4P)	(1)
-909-01	Heat Sink for Regulator	1	-042-03	Extension Cord	(1)
-910-01	SIF Board Holding Bracket	1	1-532-031-11	Spare Fuse 0.2 A	(2)
-911-01	Adjustable Clamp for Capacitor 4000 $\mu$ F	1	1-504-010-02	Earphone	(1)
			Y-44017-03-3	External Antenna Connector	1

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Part No.	Description	Q'ty	Part No.	Description	Q'ty
<b>B. Screws &amp; Washers</b>					
<b>Main Block</b>			<b>Solder Lug</b>		
			7-623-508-01	3φ (for Transistor)	1
<b>Screw</b>			<b>PC Board Block</b>		
7-621-259-62	⊕P 2.6φ × 10 (for Earphone)	2	7-621-261-52	⊕P 3φ × 8 (for Transistor (2), Video Board Mount (1))	3
-261-32	⊕P 3φ × 5 (for Multi-Jack (2), 4P Plug Mounting Bracket (3), High Voltage Block (1), Power Switch (2), Regulator Heat Sink (2), Adjustable Clamp (1), SIF Board (2), SIF Board Mounting Bracket (2))	15	-255-52	⊕P 2φ × 8 (for Transistor)	4
-261-42	⊕P 3φ × 6 (for Power Transformer)	1	-555-33	⊕K 2φ × 5 (for Deflection Circuit Board)	3
-561-43	⊕K 3φ × 6 (for Power Transformer)	1	-261-32	⊕P 3φ × 5 (for Video & Sound Signal Circuit Board)	1
-111-42	⊕R 3φ × 6 (for Tuner)	2	-255-42	⊕P 2φ × 6 (for Heat Sink)	2
-261-12	⊕P 3φ × 3 (for Lamp Holder)	1	<b>Nut</b>		
-561-33	⊕K 3φ × 5 (for 4 Pole Plug)	3	7-622-108-02	3φ (for Transistor)	2
-261-62	⊕P 3φ × 10 (for Adjustable Clamp)	1	-105-02	2φ (for Transistor)	4
-261-82	⊕P 3φ × 14 (for Selenium Rectifier)	1	<b>Star Washer</b>		
-311-32	⊕F 3φ × 5 (for Picture Tube Mask)	1	7-623-408-01	3φ (for Transistor)	2
-261-52	⊕P 3φ × 8 (for 2P Lug (1), Transistor (2))	3	<b>Cabinet &amp; Appearance Block</b>		
-259-42	⊕P 2.6φ × 6 (for System Selector Switch)	2	<b>Screw</b>		
-261-22	⊕P 3φ × 4 (for Adjustable Clamp)	1	7-621-559-43	⊕K 2.6φ × 6 (for Telescopic Antenna Clamper)	1
<b>Nut</b>			-561-33	⊕K 3φ × 5 (for Telescopic Antenna Bushing (1), Telescopic Antenna Holding Bracket (1), Cabinet Front (4))	6
7-622-107-02	2.6φ (for Earphone)	2	-261-36	⊕P 3φ × 5 (for Cabinet Back)	3
-308-02	3φ (for Speaker)	4	-259-38	⊕P 2.6φ × 5 (for Cabinet Back)	3
-108-02	3φ (for 2P Lug (1), Transistor (2))	3	-561-53	⊕K 3φ × 8 (for Picture Tube Clamp)	2
<b>Lock Washer</b>			-262-22	⊕P 3φ × 20 (for Picture Tube Clamp)	1
7-623-307-01	2.6φ (for Earphone)	2	-268-42	⊕P 4φ × 6 (for Grip Handle)	2
<b>Spring Washer</b>			-555-29	⊕K 2φ × 4 (for "SONY" Badge)	2
7-623-208-21	3φ (for Selenium Rectifier)	1	-259-39	⊕P 2.6φ × 5 (for Table Stand Holding Bracket)	4
-208-11	3φ (for 4P Plug Mounting Bracket (3), Power Transformer (1), Multi-Jack Holding Bracket (2))	7	-770-34	⊕B 2.5φ × 5 (for Control Panel)	1
-207-12	2.6φ (for System Selector Switch)	2	-555-33	⊕K 2φ × 5 (for Control Panel)	1
<b>Star Washer</b>			<b>Spring Washer</b>		
7-623-408-01	3φ (for Tuner (2), Transistor (2))	4	7-623-210-22	4φ (for Grip Handle)	2

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